

## Hill-Stead 46.1.95

### A “Lost” Work of the Painter of Athens 931

Phyllis B. Katz

This paper describes in detail a heretofore little known head-pyxis by the Painter of Athens 931, a major painter in the Dodwell School<sup>1</sup>. The paper includes a complete set of pictures (Plate I, 1-7) and drawings of the vase as well as tables (Tables 1 and 2) and figures (Figures 1, 2 and 3) that present detailed statistics (where available) about all the known head-pyrides<sup>2</sup>. Finally, the paper provides a brief discussion of the Dodwell Painter and of the work of the Painter of Athens 931 in order to demonstrate the unique nature of the Hill-Stead vase and the high quality of its design<sup>3</sup>.

Although Hill-Stead 46.1.95 has been in Farmington, CT since 1907, this fact was not known by scholars until quite recently when curators at the museum, wishing to ascertain the date of the vase, circulated a picture of it to several experts<sup>4</sup>. The vase is listed briefly by Payne as NC 1308 and in D.A. Amyx's *Corinthian Vase-Painting of the Archaic Period* as Paris 1905 (211: A-12); however, these experts did not know the current whereabouts of the vase and had seen only a poor illustration of Paris 1905. Thus, in his “Dodwelliana” study of 1971, D.A. Amyx describes the head-pyxis by the Painter of Athens 931 as “lost”<sup>5</sup>. Payne and Amyx refer to the catalog entry for the auction by the Hotel Drouot (10-12.4. 1905) of items from the Collection Philip where the vase appears as Coll. Philip No. 573, Plate p. 70 and description, p. 84<sup>6</sup>. The description in the catalog provides very little information about the vase's appearance and does not mention the two prominent female figures on the shoulder and body of the vase; however, the photograph in the catalog shows clearly that Paris 1905 is the Corinthian Head-pyxis on display at the Hill-Stead Museum<sup>7</sup>. Apparently unsold at the April, 1905 auction, it was purchased by Alfred Atmore Pope, owner of Hill-Stead, then a country home, in Farmington, Connecticut, on the 10th of August 1907 from the shop of M. Bing, 10 Rue St. Georges for 1500 francs; the catalog for the 1905 sale lists M. Bing as the “Expert” for the auction. The bill of sale in the files of the Hill-Stead Museum lists the vase simply as a “Vase Corinthien.” It was part of a lot of seven other items, all of them Oriental vases which, aside from Impressionist art, were the major focus of Mr. Pope's collecting activities. After it had

been purchased by Mr. Pope, there were no new references to the vase in the scholarly literature; hence, the erroneous belief that the vase had been lost.

Abbreviations used throughout this paper and in the tables:

NC= H. Payne. *Necrocorinthia*. (Oxford: Clarendon Press, 1931).  
CorV= D.A. Amyx. “Corinthian Vases in the Hearst Collection at San Simeon.” *University of California Publications in Classical Archaeology* 9 (1943) 207-231.

CorVP= D.A. Amyx. *Corinthian Vase-Painting of the Archaic Period*. (Berkeley: U. of California Press, 1988).

CSCA= D.A. Amyx. “Dodwelliana.” *California Studies in Classical Antiquity* 4 (1971) 1-48.

<sup>1</sup> A major portion of the research for this paper was completed in Fall, 1994, while I was a Visiting Lecturer in the Dartmouth College Classics Department. I wish to thank Professor Jeremy Rutter for his encouragement and advice as my research progressed. In addition, I spent many hours at the Hill-Stead Museum studying Hill-Stead 46.1.95. Shepherd Holcombe, Jr., Curator of Collections, provided much assistance and gave generously of his time. Previous work on the vase at the museum by Sharon Stoltz, Director of Educational Programs, and by Anne Hartmann, Public Relations Director established the date of the vase through correspondence with Professors D.A. Amyx and J.L. Benson and with M. Padgett of the Museum of Fine Arts, Boston (see note 39*infra*).

Special acknowledgment and thanks must be given to Ms. Kara Spain, who painstakingly executed a complete series of drawings of the vase and to Ms. Linda Spiegel of the University of Connecticut Health Center who took a full series of photographs of the vase.

In March, 1995 I spent two days at the Archaeologisch-Historisch Instituut of the Universiteit van Amsterdam where Dr. C.W. Neeft provided invaluable assistance and much additional information about a number of the head-pyrides and about the Painter of Athens 931. I am greatly indebted to this generous scholar.

<sup>2</sup> Table 1 includes a comparison of the facial and torso measurements for the three protomai on the vase. Table 2 includes information on the location of each vase, its museum number, date, and painter. Also included is at least one bibliographical reference for each vase, an indication of the vase's provenance, the number of heads, the body decoration and the height.

<sup>3</sup> The works of the Painter of Athens 931 are listed by D.A. Amyx, 1988, 211-212, 321, 348. An updated list will be published by C.W. Neeft.

<sup>4</sup> See footnote (# 39) below for details of the correspondence of the Museum with D.A. Amyx, J.L. Benson and M. Padgett.

<sup>5</sup> Amyx, 1971, 23.

<sup>6</sup> *Antiquités Egyptiennes, Grecques et Romaines Appartenant à P. Philip et à divers Amateurs*, les 10, 11 et 12 Avril 1905, à l'Hotel Drouot.

<sup>7</sup> The catalog description reads as follows: “Vase corinthien en terre cuite. Sa panse sphérique, surmontée d'un court goulot muni de trois anses représentant Astarté, est contournée d'une large frise d'animaux et de rosaces qui contribue à faire de ce vase un type bien caractéristique des pièces de ce genre. Haut. 0,23.”



Fig. 1. Drawing by Kara Spain of the frieze and shoulder panels of the vase

Hill-Stead 46.1.95 is remarkable for its size, for its fine state of preservation, for the high quality of the figures that decorate the vase, for its three female protomai, each possibly individually molded, and for its two female figures, one in a shoulder panel and one in the main frieze (Plate I, 1-7 and Figure 1). The labeling of the vase as a “bizarre example” of the Painter of Athens 931’s late style by Amyx, based on a viewing of a poor catalog photograph, is unjustified – the vase is, in fact, a “showpiece” by the painter<sup>8</sup>.

The vase has a H. to the top of the lip of 21.9 cms.; the H. to the top of the heads is 22.4 cms.; the maximum D. of the body is 22.4 cms.; D. of the mouth is 13.8 cms. (outside) and 8.1 cms. (inside); the base D. is 16.0 cms. Figure 2 illustrates a profile of the vase. At 22.4 cm. the Hill-Stead vase is among the largest of the head-pyxis (Figure 3). The weight of the vase is 1780 grams. The vase is intact; there is no lid. The clay is orange/yellow-buff; there is added purple on some of the figures, but no white. The inside of the mouth has remains of black paint. The painted area at the top of the mouth is decorated with rays; on the edge of the lip, interrupted by the female protomai, are stepped zigzags. The protomai wear peploi; one has a necklace. The faces and torsos of the protomai are significantly different; I have labeled them as Heads # 1, 2 and 3 (Table 1, Plate I, 5, 6, and 7, respectively)<sup>9</sup>. The neck of the vase is black; much of the paint has flaked off or been worn away. On the shoulder, within the panels bounded by the three female protomai, are three groupings (Figure 1, a) between Head #2 l. and Head #1 r.; two worn painted lines on right side of head #2 are followed by a tapered vertical row of

very worn rosettes; in the center is a slightly worn siren<sup>10</sup> facing left and wearing a polos; her wings are spread on either side of her body; the vase is damaged above the left wing; the paint on the feet is gone; to the right of the siren is another row of tapered rosettes and a pair of painted vertical lines; (Figure 1, b) between Head #1 l. and Head #3 r.; a damaged vertical row of tapered rosettes or dots; a female facing right wearing a peplos and himation and a polos; her hands are covered; a siren facing left, also wearing a polos; her wings are raised above her tail; to r. of siren, a vertical row of tapered rosettes; (Figure 1, c) between Head #3 l. and Head #2 r.; a very damaged vertical row of rosettes (there is a hole to the right and slightly down from the top rosette); a much damaged scene of two confronting sirens; most of the paint is gone,

<sup>8</sup> Amyx, 1971, 29; in a conversation on March 3, 1995, C.W. Neeft called the vase a “showpiece.” For “bizarre” examples of the head-pyxis, compare Exeter 438.1975 (Table 2, #32) and the Kurashiki vase (Table 2, #34).

<sup>9</sup> If other head-pyxis have heads that are different enough to be considered individual representations, this information is not, at present, available; although many of the heads have been photographed and used as a basis for dating sculpture, there have been no studies of the heads as significant features of the head-pyxis themselves, and I have found no studies that include detailed measurements of any of the heads. The naming of three heads on New York, MMA 74.51.364 (Table 2 #53) as three individual females, however, suggests that at least one other artist conceived of the protomai as specific individuals. Milne, 1942.

<sup>10</sup> I use this customary term for bird figures with human heads (most, but not all, sirens are female). I have been cautioned by Professor Rutter, however, that the term is an arbitrary one, in spite of its long history.

and the incisions are badly worn; between them is a stylized lotus-palmette or tree-of-life<sup>11</sup>; to the right appears to have been another vertical row of tapered rosettes, now badly damaged. The frieze on the body is bounded above by a checkerboard pattern and below by a broad zig-zag pattern above a row of pendant tongues. Both series of framing motifs are very worn in sections that correspond to the locations of maximum wear on the frieze. The filling ornament throughout consists of incised rosettes and dots. The frieze (see Figure 1) from l. to r. includes: a lion facing l. (Plate I, 1); part of his mouth is missing; the paint from the front feet is very worn; a stag with antlers facing l.; the paint on the stag's head, neck, antlers, and legs is very worn as is the paint on the surrounding rosettes; a lion facing l. (Plate I, 2); the paint on the head, tail, and feet is very worn; a female figure facing l. in peplos and himation with hands covered (Plate I, 3); the paint is intact; a lion facing r.; the lion's mouth is damaged; a siren with raised wings and polos facing r.; a stylized lotus-palmette or tree-of life; a much damaged siren with raised wings and polos facing l. (Plate I, 4).

This description of the frieze and the drawing in Figure 1 are focused on the female figure because I view her as the most unusual and therefore potentially the most focal element in the frieze. C.W. Neeft has cautioned me that the confronting sirens with the lotus-palmette (or tree of life) in the middle, may be the real focal point of the frieze, and that the overall plan is 'a palmette between sirens between lions,' and then, to fill up the void 'stag, lion, and woman to left.' Neeft also argues that the lions, who have their backs turned to the female figure, are not related to her because their heads are not turned towards her<sup>12</sup>. Both designs (the lotus-palmette and the female figure) occur in portions of the frieze between two of the heads, both are slightly to the left of the center point between the heads. D.A. Amyx notes that "most friezes of animals on Corinthian vases are arranged according to some systematic plan and should be so described"<sup>13</sup>. If the lotus-palmette flanked by the sirens on the Hill-Stead vase is the focal point of the vase, the plan is asymmetrical because there are seven remaining figures on the vase around the lotus-palmette. Moreover, two of the shoulder panels (the sirens with lotus-palmettes and the woman and siren) appear to be directly related to the designs below (see Figure 1). However, the third shoulder panel is not connected in any obvious or direct manner with the scene below it. Hence, though the artist has employed a certain degree of asymmetry in his plan, he has created a "dialogue" between two parts of the pattern that suggest that these areas may be

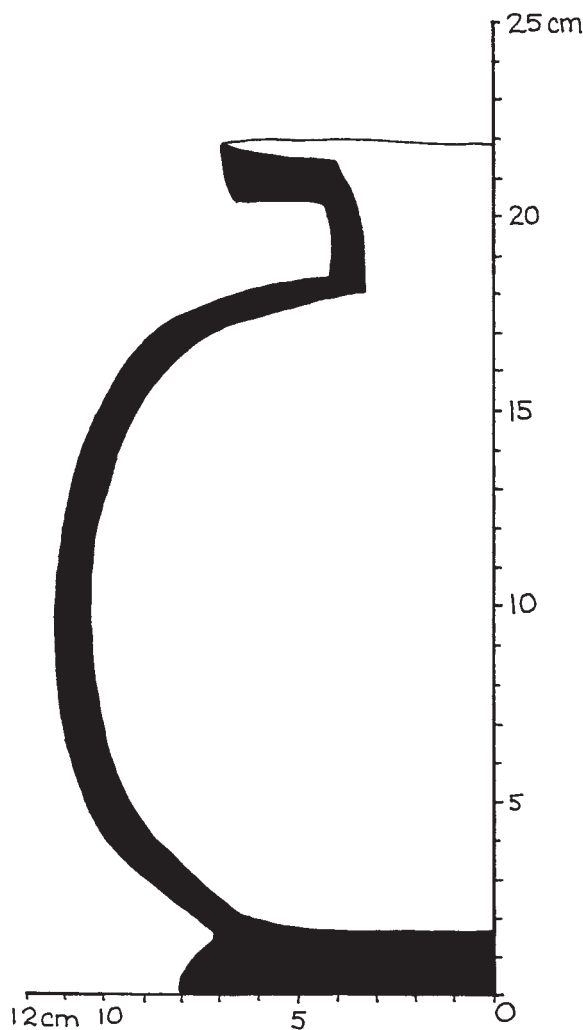


Fig. 2. Profile drawing of the Hill-Stead 46.1.95

of equal importance. The most "systematic plan" appears to be the scheme which includes the two shoulder panels in juxtaposition with the main frieze. These two panels (b) and (c) are closely related in subject matter to the scenes on the frieze below them; but, the scene on panel (a) has no

<sup>11</sup> The tree of life is a dominant motif in Geometric and Archaic art: see Kahane, 1973. In almost every example given by Kahane, the tree of life is framed by two animals in heraldic confrontation. A significant number of the lotus-palmettes on Corinthian pottery are framed by confronting animals or mythical creatures; the lotus-palmette may thus be an iconographic replacement for and a signifier of the tree of life. See also Rombos, 1988.

<sup>12</sup> Comments from an undated letter of April, 1996.

<sup>13</sup> Amyx, 1943, 209.

Table 1  
The Protomai on the Hill-Stead Head-Pyxis

MEASUREMENTS	HEAD #1	HEAD #2	HEAD #3
polos to chin	35.0 mm.	34.0 mm.	32.8 mm.
cheek to cheek	20.2 mm.	19.2 mm.	19.2 mm.
nose length	7.8 mm.	9.7 mm.	damaged
nose width	4.8 mm.	5.4 mm.	damaged
forehead to chin	28.0 mm.	28.4 mm.	27.2 mm.
distance between pupils	10.3 mm.	11.2 mm.	9.8 mm.
torso (widest part)	49.2 mm.	51.2 mm.	50.0 mm.
distance between nipples	29.0 mm.	30.8 mm.	breasts not pronounced

apparent relationship to the frieze below it (Figure 1). C.W. Neeft notes that panel (c) is “the most elaborate, heraldic, and most important”<sup>14</sup>. An additional attempt at patterning may be seen in the two pairs of flanking lions on the main frieze. There are two lions that each face away on either side of the female figure facing left, and two lions that each face towards the two sirens and the lotus-palmette. The vase’s three protomai are different in size and shape and appear to represent three very different women (Plate I, 5-7 and Table 1)<sup>15</sup>. I am not certain whether one or more molds were used; in any event, the potter has taken pains to show differences between the heads. Head #1 is the best preserved; the paint on the hair, face and peplos shows only moderate damage; the figure wears a painted necklace (perhaps of figs?)<sup>16</sup> and a high polos distinguished from the hair by a hairband or fillet. (Plate I, 5). The hair is painted in loops on her forehead. The face is slightly rounded and youthful. The torso, which is well modeled, has pronounced and firm breasts. The right eye and the right side of the back of the head, neck and upper torso are greatly damaged as is the section which connects the head to the lip, and there is a slight crack in the section which connects the head to the shoulder. The paint on the left side of the head is very worn<sup>17</sup>. The most pronounced feature of Head #2 is the nose (Table 1, Plate I, 6). The painted hair above the forehead is very damaged. The figure has no necklace, perhaps due to wear on the neck of the head, but also wears a high polos. Head #2 also has a well modeled torso and pronounced breasts. Head #2 has lost most of

its paint; traces remain on the locks of hair and on the peplos. The right side of the head is very worn; there is a large crack where the torso joins the shoulder of the vase. The left side of the head is also very worn. Head #3’s most distinctive features are the broken nose and the flat torso. The face is more angular and the jaw more prominent than that of Head #1 (Plate I, 7). The breasts are flatter than those of Heads #1 or #2. The figure has no necklace, but has the same rounded polos. The paint on the left side of the head is almost completely worn away; there is a crack where the head joins the lip of the vase. Some traces of paint remain on the left side of the head and body.

The cracks on the sides of all three heads show signs of repair and suggest that the heads may have begun to separate from the body, either before the vase was

<sup>14</sup> Undated letter, April, 1996.

<sup>15</sup> These differences in appearance, however, may have been caused by shrinkage of the clay in the mold. Stillwell, 1948. But, Gloria S. Merker notes of Hellenistic terracotta female figures found at Corinth at the Sanctuary of Demeter and Kore that figurine types were often changed deliberately from the original mold, and this practice may also apply to the protomai on the head pyxides. Merker, 1990, 56-57.

<sup>16</sup> Although the pendant on the necklaces cannot be definitively recognized as figs, the reference to a fig necklace in Aris-tophanes provides at least one indication that such necklaces had a religious connotation for girls. See Henderson, 1987; lines 646-647 refer to the fig necklace (ἰσχυάδων ὀρμαθόν). See also Simon, 1983, 77-78. Simon notes the importance of fig necklaces both for *pharmakoi* and for *kanephoroi*.

<sup>17</sup> Right and left in this description are seen from the point of view of the viewer.



completed or before the vase went out of use. Numerous detached heads exist showing the frequency with which the heads were broken: “often the head snaps off, leaving just the top of the rim, but the bands decorating the rim may be discerned”<sup>18</sup>. Pyxis heads thus detached show a scar from the upper attachment; they are without paint on the back, and can thus be distinguished from kalathoi heads. Since the pyxis heads are fragile, the heads may not have served as true functional handles<sup>19</sup>. The potter has mounted the heads on the lip of Hill-Stead head-pyxis so that they rise slightly above the lip (0.3 cm.). The three females in their peploi and poloi are focal points that provide a vertical counterbalance to the horizontal sweep of the animal frieze. Their hair-style and clothing place them in the latter part of the Middle Corinthian period, or “the transition to the Late Corinthian period”<sup>20</sup>; earlier heads on head-pyrides have heavier or more angular faces and more stylized hair<sup>21</sup>. Scholars have concentrated on the heads for evidence they provide for dating sculpture – earlier heads have stylized bands of hair rather than tresses, and broader, flatter faces; little or no torso is shown. Later heads are more slender; the hair is more natural<sup>22</sup>. Some of the heads, like those on the Hill-Stead vase, wear necklaces and the torsos have painted peploi; some are even more ornately dressed (see, for example Paris E602, Table 2, #65). The variety of the heads and the care with which many are executed suggest that they may actually be quite important. Gisela Richter does note this possible importance of the protomai in her discussion of the heads on MMA 35.11.21 (Table 2, #50): “amid this wealth of pattern the heads on the handles look out serenely, giving to the whole a note of quiet stability”<sup>23</sup>. The protomai on the most artistically successful of the Corinthian head-pyrides, such as those by the Hill-Stead vase’s painter (the Painter of Athens 931), or the Stobart painter (San Simeon 5620, Table 2, # 69), achieve exactly this effect. Yet, these heads may be even more important; they may be representations of hetairai or of goddesses or priestesses. If so, this suggests a more conscious attempt of the potter/painter to give a specific context to the heads. As mentioned earlier, evidence for this view appears on another head-pyxis in New York (Metropolitan Museum of Art, CP-54, Table 2, #53) on which names are incised underneath the three heads on this vase<sup>24</sup>. These names were almost certainly incised before the pot was fired. Marjorie J. Milne discusses these names: Iope, Himero, and Charita in detail, showing the context in which each has appeared elsewhere<sup>25</sup>. Milne excludes the possibility that the names may be imaginary on the grounds that the name Iope, with its connections

to divinities, would not have been chosen at random<sup>26</sup>; she gives near equal weight to two possibilities for the names: that they are those of divinities, probably Nereids<sup>27</sup>, or that they are the names of hetairai<sup>28</sup>. Amyx notes that “the names characteristically refer to qualities of feminine attractiveness, suitably applicable to any women, and not exclusively to hetairai (unless adopted as *noms de guerre*)” and also points to Lorber’s suggestion that “this pyxis could have been a gift to be shared by three hetairai”<sup>29</sup>. Further study of the context of these names is indicated<sup>30</sup>; on one extant fragment of a head-pyxis with three protomai drawn graphically along the shoulder, the larger of the female figures is labeled Hera, while the other heads are unnamed<sup>31</sup>.

<sup>18</sup> Pemberton. 1989, 179. See also numbers 603, 621, 623, 624, 625, 626. Descriptions of these detached heads also appear in the Excavation Reports from Corinth of the American School of Classical Studies: Stillwell, 1948, 80-83 and Palmer, 1964, 97ff. See Jenkins, 1940, 240-241, numbers 222-228; 231-237.

<sup>19</sup> Professor Rutter has suggested that the head-pyrides may have been hung from strings, much as hanging baskets are hung today. This would work for the vases with three heads, but those with two would have a tendency to tip. I have found no evidence of string wear around the neck or on the back of the heads on the Hill-Stead vase.

<sup>20</sup> Undated letter of C.W. Neeft, April 1996.

<sup>21</sup> See Wallenstein, 1971, for a chronological survey of these heads.

<sup>22</sup> For a discussion of the dating of the heads, see for example, G. Richter, 1968, 13. See also Payne, 1931, 232 ff. and Amyx, 1943, no. 9, 213 ff. However, Amyx notes that treatment of the head-pyrides as a source of dating has led to circular arguments: the heads provide dates for sculpture; the same sculpture is used to date the heads.

<sup>23</sup> Richter, 1937, 104.

<sup>24</sup> Amyx, 1943, 215, argues that only the heads with inscriptions can be understood to have meaning. Other heads “can most easily be understood simply as a form of ornament proper to a vase intended for women’s use. In that case there is no need of, or warrant for, insisting on any specialized meaning...”

<sup>25</sup> Milne, 1946, 217-222.

<sup>26</sup> Milne notes that “ $\Phi_1 \acute{o}\tau\alpha$  clearly belongs to the class of divine names, for its first element  $\Phi_1$  occurs in the names of a number of Nereids and Okeanids, as does the second element  $-\acute{o}\tau\alpha$ , Milne, 1946, 220.

<sup>27</sup> None of the names, however, appears in full in the comprehensive list of Nereid names provided by Barringer, 1995, 5-6.

<sup>28</sup> Amyx 1943, 215, note 57.

<sup>29</sup> Amyx 1988, 598.

<sup>30</sup> Dr. Richard Martin of Princeton University (participant in my workshop “Women Worshipping; Women Worshipped,” *Feminism and the Classics Conference*, Princeton University, November 8, 1997) wonders whether the heads may represent members of a girls’ chorus. He notes that the three names are reminiscent of those of the singers in Alcman’s “Parthenēia” (Frgs. 1 & 3). This suggestion warrants further investigation.

<sup>31</sup> See Amyx, 1988, fragment #122. The fragment is Corinth C 65-38 from the Sanctuary of Demeter and Kore on the Acrocorinth. See also Stroud, 1968, 320ff. and pl. 91, d.; and Palmer, 1964, 122 #261.

Number  
of Vases

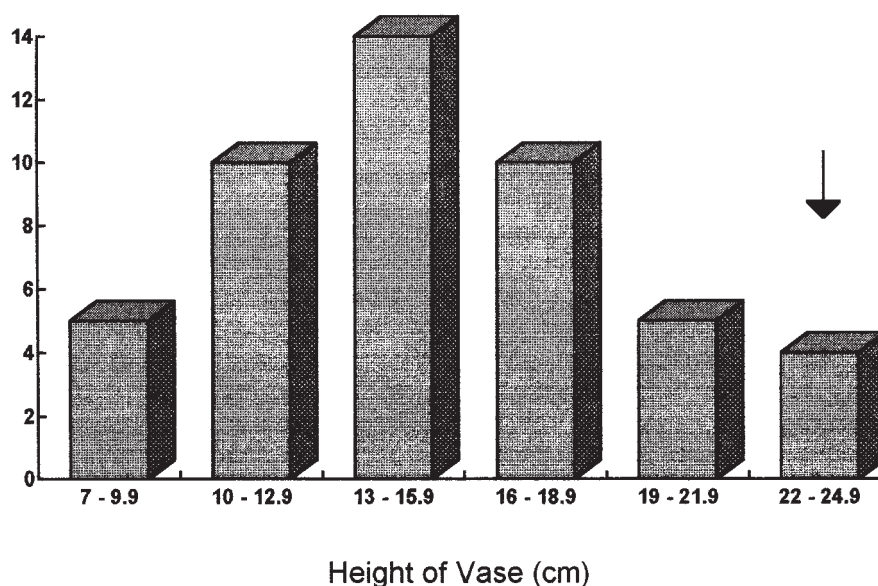


Fig. 3. Distribution of heights of head-pyxides. The height of Hill-Stead 46.1.95 is denoted by the arrow

The inclusion of the two isolated women as part of the decoration on the body of the vase, as well as the possible individualization of the protomai, make the Hill-Stead vase unique because on the four other head-pyxides where women are depicted on the decoration of the body the women are portrayed in groups or pairs. Amyx calls such individual women “strays”<sup>32</sup>. The other head-pyxides depicting women are: Dublin 1921.100 (Table 2, # 31), Berlin 1899 (NC 894, Table 2, #14), Berlin 2890 (sometimes referred to as F3929; NC 669, Table 2, # 16), and Munich 7741 (Table 2, #49). The last two vases have been termed *Frauenfest* vases by I. Jucker and D. Callipolitis-Feytmans<sup>33</sup>. Jucker and Callipolitis-Feytmans have studied a group of Corinthian vases with scenes that apparently show women participating in a festival or festivals. The scenes on these *Frauenfest* vases include women dancing together or with padded male figures, women or girls dancing holding wreaths or processing with offering trays (*kanephoroi*), women with young girls, some of whom are being crowned, seated women with infants, women spinning and women walking in groups. The women dancing

or walking are generally shown in profile. These women and those who are not carrying cult objects typically have long flowing hair and wear a himation and an ankle-length peplos beneath<sup>34</sup>. Many of the women have their hands covered by their himation. The two women on the Hill-Stead vase are very close in stance and dress to these processing

<sup>32</sup> See Amyx, 1988, 654, note 81: he designates a lone woman on an early work of the Patras Painter, a kotyle, Taranto 20649, as a “*Frauenfest*-lady who has been allowed to stray from her normal surroundings” and “a little lady in the middle animal frieze of the oinochoe by the Anados Painter” (Tarquinia RC 5145) is a “similar stray.”

<sup>33</sup> Jucker, 1963 and D. Callipolitis-Feytmans, 1970. See also Amyx’s review of the subject, Amyx 1988, 653-657 for additional references. I am working on a reassessment of the *Frauenfest* vases.

<sup>34</sup> Professor Rutter has suggested that the profile view may be so prevalent simply because it is the easiest to draw. I agree that the pose is probably an artistic convention, and I do not believe that scholars have proven that all the groups of women walking and dancing are connected with a specific festival; the sheer number of these scenes suggests that they are generic and that they document women’s group activities. Such activities are likely to have been religious in nature: Calame, 1977, or Lonsdale, 1993.

women. Of over 290 Corinthian vases where women appear, nearly 100 show women dancing or walking in line; an additional twelve show seated women with babies or children<sup>35</sup>. The descriptions of the women on the remaining vases provide no evidence about their activities or appearance; however, a few of the scenes are clearly mythological in context<sup>36</sup>.

Among the earliest known head-pyrides are Berlin 1899 (Table 2, # 14, NC 894), which links animal and female figures processing with palms and branches in its frieze, and Berlin 2890, (Table 2 # 16, NC 669) which is decorated with boars, lions, panthers, goats, sphinxes, lions, and an owl. On one shoulder panel is a procession of women, led by a flute player<sup>37</sup>. The women, wearing chitons and himations are shown in profile; they have long flowing hair; their hands are hidden in their himations<sup>38</sup>. Berlin 1899 depicts women carrying palms and branches in procession. There are three women on Dublin 1921.100 (Table 2 # 31): one on the shoulder panel with two sphinxes, and two walking women on the upper frieze. The frieze of Munich 7741 consists of walking and dancing women and children; the two panels also show processing women and children. The vase has only two protomai.

The date of the Hill-Stead head-pyxis is late Middle Corinthian<sup>39</sup>. Amyx notes that "the head-pyxis, once launched, enjoyed a long run of popularity, finding a home in widely diverse schools of [Corinthian] vase-painting"<sup>40</sup>. Although I have listed 75 known examples in world museums and private collections, including fragments<sup>41</sup>, the many detached heads from lost head-pyrides confirms Amyx's statement of the wide popularity of the form<sup>42</sup>. As Amyx observes, once established as in Corinth, the head-pyxis had a long history with vases ranging in date from Berlin 1899 (Table 2, #14 and Berlin 2890 (Table 2, # 16) which are Early Corinthian to New York, Metropolitan Museum 06.1021.32 (NC 1503, Table 2, # 51), a fine example of a Late Corinthian II vase whose decoration is in the "Linear White Style;" the protomai are attached to its shoulder and not to the lip, and the vase has a single, very large head on the lid.

Thirty-six of the extant head-pyrides are decorated with an animal frieze<sup>43</sup>; five have female figures in the main frieze or in the shoulder panels, two have ephebes on horseback. Thirty-four of the thirty-six animal friezes also include one or more unreal or mythical creatures (Mischwesen), figures such as sirens and sphinxes; four of the friezes include Boreads. Each animal frieze is different, but pairs of confronting or heraldic animals or hybrid creatures are a dominant syntactic element; trees of life or lotus-palmette crosses form the centerpiece for a

number of these pairs. (See for example, Berlin 4507, Bonn 666, Corinth T2970, Leningrad 5551, London 1873.10-12.1, Oxford 1893.125, Palermo 2885, St. Louis WU 3263: in Table 2, #s 18, 20, 28, 35, 38, 55, 59, and 68). The confronting pairs often hold a central position on the belly of the vase directly between two of the heads. This is also true of Hill-Stead 46.1.95, though, as I have noted, the confronting pair of sirens do not occur directly in the center between the two heads; these two confronting sirens are located between heads #2 and #3. Between them is a lotus-palmette. In addition, 5 of the head-pyrides are decorated with zones of tongues, four are in "Linear White Style," and two in Antiparos style.

Of the head-pyrides listed in Table 2, only Palermo 2885 (Table 2, #59) is also by the Painter of Athens

<sup>35</sup> C.W. Neeft has provided me with a full list of these vases and I am in the process of cataloging the scenes.

<sup>36</sup> It is apparent that women engaged in group activities are a major subject for Corinthian painters; while we cannot know what the women on the Hill-Stead vase are intended to represent, their likeness to the women on the *Frauenfest* vases and on other vases showing groups of women walking in lines and dancing may be important.

<sup>37</sup> A description and three illustrations are found in NC 293, Plates 23, 26 and 47. For the *Frauenfest* Vases see I. Jucker, D. Callipolitis-Feytmans, and D.A. Amyx note 32*supra*.

<sup>38</sup> Women with covered hands also appear on the following *Frauenfest* Vases as listed in Jucker and Callipolitis-Feytmans (see note 32): Berlin F1151; London 1929.7-15.2; London 1865.7-20.20; Hamburg 1962.130; Baltimore 48.192.

<sup>39</sup> For the majority of the vases, I have relied on the dates supplied by Payne, Amyx, Benson, and Neeft. In letters responding to queries about the Hill-Stead 46.1.95 from the staff of the Hill-Stead Museum, several different dates are given for the Hill-Stead vase. D.A. Amyx (October 11, 1988) calls the vase "a handsome specimen" and dates it to the Middle Corinthian period, (590-570 B.C.). J.L. Benson (December 15, 1989) agrees to the classification of Middle Corinthian, but gives slightly different dates (600-575). Michael Padgett (August 3, 1988) Department of Classical Art, Museum of Fine Arts Boston, dates the vase to the Late Corinthian period (575-570). Amyx has a full discussion on his dating criteria as they compare to those of other scholars in *CorVP*, Chapter 3, 397-434. At the time that I began my own study of the vase, the Hill-Stead Museum received a letter of inquiry from C.W. Neeft, who had also recognized that the pyxis must be NC 1308 and *CorVP* 211:1-12 from snapshots supplied to him in 1994 by Professor Benson. Neeft dates the vase as "very very late Middle Corinthian" or to the transitional period between Middle Corinthian and Late Corinthian I (undated letter, April, 1996).

<sup>40</sup> 1988, 452.

<sup>41</sup> The majority of the vases on my list come from references in NC, *CorVP*, and *CorV* and from Hopper, 1949. Amyx includes all those listed in *Necrocorinthia* and corrects the location and number of several. Wallenstein, 1971, lists several that occur in neither Payne nor Amyx. C.W. Neeft provided me with information on an additional 28 vases or vase fragments.

<sup>42</sup> For information on these heads, see note 18 *supra*.

<sup>43</sup> It should be noted however, that "animal friezes" also include a number of non-animal creatures: sirens, sphinxes, griffins, and boreads are among the most popular in this category.



931, a painter whose work is “closely dependent upon the Dodwell Painter”<sup>44</sup>. The importance of the Dodwell Painter and his “school” is clearly defined by Amyx: the work of these painters “forms a considerable part of the entire output of fine-ware pottery of the period”<sup>45</sup>. In *CorVP*, Amyx attributes 50 vases to this prolific artist; C.W. Neeft is updating this list. Vases by the Dodwell Painter have a great variety of subjects in the friezes, including human figures<sup>46</sup>; however, Amyx notes that regardless of the variety of human figures included, “the artist adheres strictly to the conventions of animal-frieze decoration, never once setting a purely human scene apart from the animals and never omitting the filling ornament”<sup>47</sup>.

“The work of the Painter of Athens 931 echoes the subject matter and style of the Dodwell Painter.” As Neeft also notes: “again, animals, real or fabulous, populate the friezes in heraldic and antithetic groupings. When ‘humans’ are rendered, they are embedded in these animal friezes, as is shown by the Hill-Stead pyxis, the shoulder frieze of the oinochoe Athens E700 and, the shoulder panel of Palermo 2885”<sup>48</sup>. The career of the Painter of Athens 931 extends from the “second half of the Middle and the first half of the Late Corinthian period”<sup>49</sup>. The favorite vase shape of the Painter of Athens 931 was the convex pyxis<sup>50</sup>. Amyx lists eleven examples of this shape, one without handles, seven with upright handles, and two stemmed<sup>51</sup>. Neeft includes the vase from Kurashiki, Ninagawa Museum. The Painter of Athens 931 also produced lekanoid bowls (Amyx lists five), oinochoai (one round-mouthed and five broad-bottomed), and at least one hydria, one kotyle, one phiale and one plate<sup>52</sup>. The subject matter of the painter ranges from “typical” animal frieze decoration to the more unusual material on the two vases from Taranto (20778 and 20827), vases which Neeft describes as a “special output”<sup>53</sup>. The former, a neck-amphora, is decorated with lions, boars and a galloping rider. The latter, a kotyle, has a lion, a boar and confronting bulls. One other vase, Athens E700, also depicts an individual woman in its upper animal frieze<sup>54</sup>. Particularly distinctive is the design on the Kurashiki, Ninagawa pyxis, which has an animal frieze comprised entirely of a “kind of bird of prey”<sup>55</sup>.

Amyx argues that the quality of the vases of the Painter of Athens 931 is extremely varied and suggests that there is a downward progression in style. He notes “two distinct trends in the painter”<sup>56</sup>. Amyx calls the later vases “bizarre;” he includes the Hill-Stead head-pyxis (then known to him only from a poor photograph) and a neck-amphora from Athens<sup>57</sup>. Amyx designates as “self-consciously refined” works two in Taranto, an amphora and a

convex pyxis. The amphora from Taranto (noted above as 20778) depicts a rider galloping, a boar, and lions<sup>58</sup>. The pyxis also shows an imposing lion facing a boar. These vases are undistinguished in comparison to Hill-Stead 46.1.95 or to Palermo 2885. It is unfortunate that Palermo 2885 is broken so that only the top portion of the vase remains, since its decoration appears to be related to that of the Taranto amphora. Enough of the vase, however, has been preserved to provide a sense of the Painter of Athens 931’s versatility. On one side of the body of the vase two horses flank an elaborate lotus cross; on the other are fragments of sirens and griffins. The three highly unusual protomai are shown with full bodies and upwardly bent, painted full arms and hands. Like Palermo 2885, Hill-Stead 46.1.95 stands out in comparison to the other works of the Painter of Athens 931 as an example of his ability to produce unusual and atypical vases among his more standard pieces, vases that are more correctly to be seen as “showpieces” or as “special outputs” where the painter takes the opportunity to experiment with his subject matter.

Hill-Stead 46.1.95 is thus clearly an important work of the Painter of Athens 931. This large and imposing vase testifies to the talent and skill of the

<sup>44</sup> Amyx, 1971, 21. See Blomberg, 1983. C.W. Neeft calls the Painter of Athens 931 the “closest follower of the Dodwell painter” (unpublished work).

<sup>45</sup> Amyx, 1971, 47.

<sup>46</sup> *Ibid.*, 16-17.

<sup>47</sup> *Ibid.*, 17.

<sup>48</sup> Undated letter of April, 1996.

<sup>49</sup> *Ibid.*

<sup>50</sup> His second favorite shape appears to have been the oinochoe. He also made several each of the kotyle, the lekanis, the neck-amphora.

<sup>51</sup> Amyx discusses the Painter of Athens 931 in *CorVP*, 211-212. I have used his list for my discussion of shapes and decoration; in addition, I have made use of the unpublished list compiled by C.W. Neeft.

<sup>52</sup> See also Amyx, 1988, Appendix II, 321.

<sup>53</sup> Personal conversation with Neeft, March 3, 1995. For Amyx, see 1988, 212: B-27 (numbered by Amyx 20776, NC 1149) and 1988, 212: B-29.

<sup>54</sup> Amyx, 1988, 212: A-24. The woman occurs on the shoulder frieze, almost directly below the pouring spout of the vase. She is surrounded by two confronting sirens. Her hair-style and clothing are similar to those of the women on the Hill-Stead vase.

<sup>55</sup> Neeft points out that the lack of “antithetic disposition is remarkable.” Undated letter, April 1996.

<sup>56</sup> Amyx, 1971, 28-29.

<sup>57</sup> The Amphora is Athens 317 (*CorVP* 212:1-25). This vase is decorated with two friezes, one contains a frontal horse and a duel of hoplites; the second has a group with a charioteer and another charioteer with an animal frieze. Amyx calls the vase “late and bad.” Neeft places it in the early stage of the career of the Painter of Athens 931 and notes the presence of lions, sirens, a Boread, and a stag in the animal frieze.

<sup>58</sup> LoPorto, 1959-1969, 190, calls the design “accurato, preciso, calligrafico....”



Painter of Athens 931, its qualities apparent from a close study of its shape, size, and decoration and from the comparison of this head-pyxis with other extant head-pyrides. Its unique individual protomai, possibly showing three individual women, and its two isolated female figures place it among the most unusual of the extant head-pyrides<sup>59</sup>.

#### BIBLIOGRAPHY

- Amyx, D.A. 1943, "Corinthian Vases in the Hearst Collection at San Simeon." *University of California Publications in Classical Archaeology* 1.9, 207-231.
- Amyx, D.A. 1971, "Dodwelliana." *California Studies in Classical Antiquity* 4, 1-48.
- Amyx, D.A. 1988, *Corinthian Vase-Painting of the Archaic Period*. Berkeley.
- Barringer, J., 1995. *Divine Escorts: Nereids in Archaic and Classical Greek Art*. Ann Arbor.
- Benson, J.L., 1953. *Die Geschichte der korinthischen Vasen*. Basel.
- Blomberg, Mary, 1983. *Observations on the Dodwell Painter*. Medelhavsmuseet, Memoir 4, Stockholm.
- Calame, Claude, 1977, *Les Chœurs de Jeunes Filles en Grèce Archaïque* (Vol. I. Morphologie, Fonction Religieuse et Sociale. Rome.
- Collignon-Couve, 1949. *Catalogue des Vases Peints du Musée-Nationale d'Athènes*.
- Callipolitis-Feytmans, D., 1970. "Déméter, Corè et les Moires sur des vases corinthiens." *BCH* 94, 45-65.
- Furtwängler, A., 1885. *Beschreibung der Vasensammlung im Antiquarium*, Berlin.
- Henderson, J. ed., 1987. *Lysistrata*. Oxford.
- Hopper, R.J., 1949. "Addenda to *Necrocorinthia*." *BSA*, 162-257.
- Jenkins, R.H., 1940. "Terracottas" *Perachora I*. Oxford 240-241.
- Jucker, I., 1963. "Frauenfest in Korinth." *AntK* 6, 47-61.
- Kahane, P.P., 1973. "Ikonologische Untersuchungen zur Griechisch-geometrischen Kunst." *AntK* 16, 114-138.
- Merker, G.S., "Corinthian Figurines of the Hellenistic Period," in *The Coroplast's Art*, ed. J.P. Uhlenbrock, New Rochelle: Aristide D. Caratzas, 54-62.
- Lonsdale, S.H., 1993. *Dance and Ritual Play in Greek Religion*. Baltimore
- LoPorto, F.G., 1959-1960. "Ceramica Arcaica dalla necropoli di Taranto." *ASAtene* N.S. 21-22, 7-230.
- Lorber, Fritz, 1979. *Inschriften auf korinthischen Vasen*. Berlin.
- Milne, M. 1946, "Three Names on a Corinthian Jar." *AJA*, 217-222.
- Müller, V., 1915, *Der Polos, die griechische Götterkrone*. Berlin.
- Palmer, Hazel, 1964, *Corinth*. Volume XIII *The North Cemetery*. Part IV, 97ff.
- Payne, H., 1931, *Necrocorinthia*. Oxford.
- Pemberton, E.G., 1989. *The Sanctuary of Demeter and Kore: The Greek Pottery. Corinth XVIII* (American School of Classical Studies, Princeton).

- Rayet, O. and M. Collignon, 1888, *Histoire de la céramique grecque*, Paris.
- Richter, G.M.A., 1937. "A Corinthian Pyxis." *BMMA* 31, 104.
- Richter, G.M.A., 1949. *Archaic Greek Art*.
- Richter, G.M.A., 1968. *Korai: Archaic Greek Maidens*. London.
- Rombos, T., 1988. *The Iconography of Attic Late Geometric II Pottery*. (Studies in Mediterranean Archaeology and Literature. Pocket-book 68). Jonsared, 41-43, 187, 235-236.
- Simon, Erika, 1983. *Festivals of Attica*. Madison.
- Stillwell, Agnes, 1948, "Terracotta Figurine Moulds," in *The Potters' Quarter*. Corinth XV. Part 1, 85-86.
- Stroud, R., 1968. *Hesperia* 37, 320ff. and pl. 91, d.
- Wallenstein, Claus, 1971. *Korinthische Plastik des 7. und 6. Jahrhunderts vor Christus*. Bonn.

DEPARTMENT OF CLASSICS  
PARTMOUTH COLLEGE  
HANOVER, N.H. 03755

<sup>59</sup> It must be noted, however, that this comparison must remain incomplete until the other head-pyrides are measured and described more fully. Particularly important will be a study of the heads to see if any other vases have heads that may be deliberately different and to ascertain whether there is any suggestion of age differentiation in other vases. Study of the protomai, moreover, need better "contextualization," and should be examined in relationship to the painted scenes they accompany. Future work might also include an examination of the possible function of the head-pyrides and of the possible relationship between decoration and function.

Table 2<sup>1</sup>  
*Corinthian Head-Pyxides*

LOCATION	MUSEUM NUMBER	DATE AND STYLE	PAINTER	SOURCES <sup>2</sup>	PROVENANCE	HEADS	BODY <sup>3</sup>	HEIGHT <sup>4</sup>
1. Amiens, Musée de Picardie	M 28	LC	Severeanu workshop	files of C.W. Neeft	unknown	3	sirens, lions, panthers	16.5 cm.
2. Athens, National Museum	141 (CC549)	LC NC 1306	Severeanu	CorVP 256: A-1; CVA Tübingen I, pl. 34	unknown	2	sirens between sphinxes; lions, panthers, birds	16.5 cm.
3. Athens, N.M.	906 (CC553)	LC NC1502	unknown	CorVP 452; Necrocorinthia, p. 332, pl. 35-36	unknown	3 with poloi and dark peploi	“Linear White Style” with vegetation	19.0 cm.
4. Athens, N.M.	934 (CC589)	LC NC 1317	unknown	CorVP 452; Necrocorinthia, p. 322	unknown	2	tongue pattern; white style	9.0 cm.
5. Athens, N.M.	14951	MC NC 886	Dodwell	CorVP 210: D-1; CSCA 4 (1971) 16 no. 1; Necrocorinthia, p. 306	Sounion	unknown	animal frieze sirens, sphinxes, panthers, does, lions	unknown
6. Athens, N.M.	unknown	LC? NC 1312	unknown	AH II, 170, pl. 61: 19; Necrocorinthia p. 322	Argive Heraeum	fragment	animal frieze	fragment
7. Athens, N.M.	unknown	Late MC	unknown	Perachora II, 174 no. 1801	Perachora	unknown	confronted sphinxes	fragment
8. Athens, N.M.	unknown	unknown	unknown	Perachora II, 175 no. 1802	Perachora	fragment	fragment	fragment

<sup>1</sup> I am grateful to Dr. C.W. Neeft for invaluable assistance in providing me with comprehensive information about a number of the vases on this list.

<sup>2</sup> This is not a full bibliography. For each vase, I have included a reference or references that indicate, wherever possible an accurate description and a photograph. I have used the customary abbreviations for journals. The list includes a few references to fragments or individual heads of head-pyxides; there are many of these. A full list of the extant fragments may be found in the following sources listed in the bibliography: Palmer, 1964; Stillwell, 1948; Wallenstein, 1971; Jenkins, 1940, numbers 222-228, 231-237; Pemberton, 1989, numbers 603, 621, 623, 624, 625, 626.

<sup>3</sup> Available descriptive information varies considerably from source to source. I have provided as detailed information as possible.

<sup>4</sup> Available dimensions are not uniform: height may include height of vase to rim *or* to the tops of the heads.

9. Athens, N.M.	14952	EC/MC NC 893	unknown	Necrocorinthia, p. 307; AntK 5 (1962), 6 n. 18	unknown	3	silhouette animals	unknown
10. Basel, Antikenmuseum	BS 419.1965	LC	unknown	CVA, pl. 17:8-9	unknown	3	white style: Antiparos pattern on shoulders; Antiparos checks with bands and lines	12.4 cm.
11. Basel, Market	1969 (Cahn)	MC	unknown	MuM Sonderliste L, 1969, no. 22	unknown	3	panthers, sirens, swans, griffins, rams, goats	16.0 cm.
12. Basel, Market	1977 (Cahn)	LC	unknown	MuM, Sonderliste R, 1977, no. 17	unknown	3	white style: tongues, lines, bands	12.4 cm.
13. Basel, Market	1982 (Cahn)	MC	near Severeanu	CorVP 352; MuM, 60: 21-9-82, no. 10, pl. 4	unknown	3	shoulders: A-C: sphinx, bird, sphinx; a.f. 11 figures; lions, sphinxes, birds	13.5 cm.
14. Berlin, Staatliches Museum	1899 (F 984 )	EC NC 894	near Dunedin	Müller, Polos, <sup>5</sup> plate 5; AntK 6 (1963) 54 no. 48; Furtwängler, <sup>6</sup> Beschreibung I, 385	Greece	2	subgeometric figures: women with palms and branches, panthers and goats	9,0 cm.
15. Berlin, Staatliches Museum, Antikenabteilung	2105 (F 1664)	LC NC 1503 A	unknown	Furtwängler, <sup>6</sup> Beschreibung I, 214; Necrocorinthia, p. 332; CorVP 452	Attica	3 one on lid	one frieze of curved line with palmettes	9,0 cm.
16. Berlin, Staatliches Museum	2890 F 3929	EC NC 669	near Carrousel Painter	CorVP 166, 452; Richter, 1949, p. 13, fig. 24; Necrocorinthia, p. 293, pls. 23:3, 26: 1-3; 47:7-9; Wallenstein III/A 1	Corinth	3, even with lid; oval faces, stylized hair, no peploi	3 shoulder panels: 2 of animals, one of processing women led by flute player; main frieze: confronting sphinxes with lotus palmette, lions, sirens	22.0 cm.
17. Berlin, Staatliches Museum	2604 (F 983, not 982)	MC NC 885	unknown	Furtwängler, <sup>6</sup> Beschrei- bung I, 1885, no. 983; Wallenstein V/5a	Crete	3	panthers facing double lotus (twice); sphinxes facing goat r., siren facing lion, siren r., goat facing panther (twice)	16.0 cm.

<sup>5</sup> Müller, 1915.

<sup>6</sup> Furtwängler, 1885.

LOCATION	MUSEUM NUMBER	DATE AND STYLE	PAINTER	SOURCES	PROVENANCE	HEADS	BODY	HEIGHT
18. Berlin, Staatliches Museum	4507	MC NC 882	Berlin 4507	CorVP 193, A-1; Lawrence, AJA 63 (1959) 354; Wallenstein IV/A4	Corinth	2 level with rim; with large, square faces; sleeveless peploi, necklaces	2 shoulder panels: panther between confronting sphinxes; siren, sphinxes, swans; main frieze-assorted animals	14.0 cm.
19. Beverly Hills, Market (Summa Galleries)	1981	LC	Probably Dionysios	CorVP 353: AP-1	unknown	3	chains of lotus buds on shoulder panels; main frieze: a.f. with floral cross, sirens, griffin, birds, panther	unknown
20. Bonn, Akademisches Kunstmuseum	666	MC NC892	Chimaera	CorVP 167: A-3, 452; Lawrence AJA 70 (1966) 347; Wallenstein IV A 14	unknown	2, upper part of body well modeled	on shoulder panels, Boread between lion and sphinxes; sphinx between sphinxes; main frieze: panthers, goats	unknown
21. Boston, Fine Arts Museum	1982.450	LC	unknown	MFA Annual Report 1982-1983, 22; A. Dierichs, <i>Boreas</i> 8 (1985), 9, no. 17	unknown	3	panthers facing sirens, facing lotus-palmette, griffins, swan	16.5 cm.
22. Brussels, Musées Royaux du Cinquantenaire	A1035	MC NC 891	unknown	CVA 1, pl. 3:2, a-c; Benson, 45 list 72 no. 6, 86 n.18 <sup>7</sup> ; Wallenstein IV/ A 16	unknown	3, rise above lip	on shoulder, horsemen, birds; on main frieze, siren between two geese, griffin with two lions, winged figure	17.0 cm.
23. Copenhagen, N.M.	1632	MC NC 881	unknown	CVA 2, pl. 89:8; AJA 67(1963) 340 n. 66, pl. 73:24-25; Wallenstein IV/A 3	Corinth	3, from same mold	lotus with sphinxes, lotus with sirens; main frieze, lotus between 2 panthers, goat, lion, deer, bull	20.5 cm.
24. Copenhagen, Ny Carlsberg Glyptotek	3615	MC	unknown	MededNCG 40 (1984) 86-87, figs 1-2; F. Johansen. <i>Greece in the Archaic Period</i> , 1994, 155-156, no. 7	Corinth	1 preserved	not preserved	fragment

<sup>7</sup> Benson, 1953.



25. Corinth	C-65-38	LC	unknown	Hesperia 37 (1968) 320-321; Corinth XVIII. i, 122, no. 261, pl. 27; CorVP 591, no. 122, pl. 139: 1 a-b	Acrocorinth, Sanctuary of Demeter and Kore	1 preserved	2 female heads facing a central one with inscription Hera; checkered frieze	fragment
26. Corinth	C-64-408	MC	unknown	Corinth XVIII. i, 122, no. 259, pl. 27	Acrocorinth, Sanctuary of Demeter and Kore	1 preserved head very worn	sphinxes, felines	fragment
27. Corinth	T1513	MC	unknown	Corinth XIII, 183 no. 157m.; pls. D, 86, 87; Wallenstein IV A 13	Corinth, North Cemetery	3, wavy hair, bulging eyes	shoulder: sphinxes, sirens, bird, griffin; main frieze: panther, goats, doves	18.0 cm.
28. Corinth	T2970	MC	unknown	Corinth XIII, 320, no. X-131, pl. C, 87; CorVP 453; AJA 34 (1930) 421; Wallenstein IV/A 5a	Corinth, North Cemetery	2	shoulder: bulls, panthers, goats; main frieze: lotus palmette between sphinxes with polloi; siren with spread wings; goat and 3 panthers	11.7 cm.
29. Cracow, National Museum	XI 1305	MC	unknown	CVA Poland 2, pls. 3 & 4; Wallenstein, 150, no. VII/A 9	unknown	3 with arms painted on torsos	tongues in outline, short zig-zags; "linear white style"	15.0 cm.
30. Delphi		LC NC 1314	unknown	FdD V:1, 132 no. 109	Delphi	unknown	fragment	fragment
31. Dublin, National Museum	1921.100	MC	possibly Canessa	A.W. Johnston, A Catalogue of Greek Vases in Public Collections in Ireland; Royal Irish Academy, 1973, no. 299	unknown	3 peploi patterned with dots and zig-zags	2 a.f: panthers, sirens, 3 women, goats, sphinxes, etc.	22.0 cm.
32. Exeter, Royal Albert Museum	438.1975	MC	unknown	files C.W. Neef	unknown	3	sirens, panthers	8.20 cm.

LOCATION	MUSEUM NUMBER	DATE AND STYLE	PAINTER	SOURCES	PROVENANCE	HEADS	BODY	HEIGHT
33. Farmington, CT Hill-Stead Museum	46.1.95 formerly Paris 1905	MC NC 1308	Athens 931	CorVP 211: A-12; Catalogue Hôtel Drouot 10-12 Avril, 1905, no. 573	unknown	3, each head somewhat different	3 shoulder panels; siren with wings rampant; one with heraldic sirens and lotus palmette; one with female facing right and siren facing left; main frieze: female facing left with lion facing l. on left and lion facing r. on right; two heraldic sirens with tree of life; followed by lion facing l. and stag facing l.	22.4 cm.
34. Kurashiki, Ninagawa Museum	unknown	LC	unknown	E. Simon. The Kura- shiki Ninagawa Museum, 1982, no. 15	unknown	3	siren, owl, panther, ram, confronting panthers	10.8 cm.
35. Leningrad, Hermitage	5551	MC	Chimaera Painter	CorVP 167: A-2 452; Lawrence, AJA 63; AA 22 (1930) 24, fig. 6; Wallenstein IV/A 5b	unknown	2 level with lip, dark sleeves, necklaces	shoulder: siren between lions, Boread between panthers; main frieze: goat between panthers, lions and goat	14.0 cm.
36. Limoges, Musée A. Dubouche	78-99	MC	unknown	CVA Limoges/Vannes, pls. 4:1-4; 5: 1-3	unknown	3 (1 missing)	sphinxes; hare attacked by eagle; boars, lions, cocks facing serpent	14.5 cm.
37. London, British Museum	1866.3-3.2	MC NC 1501	unknown	Wallenstein, VII/A-4; Rayet-Collignon, 1888, 68, fig. 35	Thebes	3 with ornate peploi	sphinxes with lotus palmette; double palmette chain	unknown
38. London, British Museum	1873.10-12.1	MC NC 887	Honolulu	CorVP 224: 385, plate 94:1; Benson, 76, 4; P.N. Ure. <i>The Greek Renaissance</i> , 1921, 1-9; Wallen- stein II/A 4d	unknown	3 with black sleeveless peploi, necklaces, arms	shoulder: 3 symmetrical groupings; main frieze: lions, panthers, cocks with tree of life	21.0 cm.

39. London, British Museum	1919.11-19.7	MC NC 890	probably Hearst SSW 9500	CorVP 225:AP-2; BSA 23 (1918) 41f.; Benson, 72, 5; Wallenstein IV/ A 18	Macedonia	3	shoulder: palmettes; main frieze: griffins, sphinxes, sirens, panthers	13.0 cm.
40. London, British Museum	1928.7-19.12	LC NC 1316	unknown	CorVP 452; BMQ, III, (1928) plate 24c; Wallenstein VII/B 25	unknown	2	tongues on shoulder; main frieze: bands “Linear White Style”	7.0 cm.
41. London, British Museum	1850.1.17.1	LC NC 1310	unknown	Necrocorinthia, p. 323	Corinth	unknown	sirens, griffins, does, panthers	unknown
42. London Market, Sotheby’s (1987 and 1990); purchased by C.W. Neef, 1997		MC (c. 580)	Severeanu Workshop	Sotheby’s Antiquities, 14-12-1987, lot 204	unknown	2	boars and panthers on body and shoulder	13.5 cm.
43. London Market, Sotheby’s (1990)	unknown	LC	unknown	Antiquities from the Erlenmeyer Coll. 9-7-1990, lot 163 ill.	unknown	3	White style; tongues, checkers	12.1 cm.
44. Lyons, Musée des Beaux Arts	C/4/8 X-492-24	LC	unknown	files C.W. Neef	unknown	3	Antiparos style, checkers	10.8 cm.
45. Lyons, Musée des Beaux Arts	E 266-1	MC	same as Oxford 1893.125	AntK 5 (1962) 6 n. 18	unknown	3 with necklaces, sleeveless peploi	shoulders: rooster, palmette, rooster; sphinx, rooster sphinx, griffin, palmette, griffin; a.f. sphinxes, sirens, roosters, griffins confronting lotus palmette	17.5 cm.
46. Malibu, John Paul Getty Museum	88.AE.105	MC	Chimaera	Getty MJ 17 (1989) 112 no. 17, ill.	unknown	3	goat, lions facing siren, bull facing panther	21.8 cm.
47. Marseilles, Musée Borely	7020	LC	unknown	Wallenstein VII/ A 5; Vases Antiques, no. 119	unknown	unknown	Antiparos style; closed and open lotus palmettes	unknown

LOCATION	MUSEUM NUMBER	DATE AND STYLE	PAINTER	SOURCES	PROVENANCE	HEADS	BODY	HEIGHT
48. Manchester, Manchester Museum	III.C.75	MC	unknown	JHS 54 (1934) 207, fig. 1; Corinth XV, ii. 71, n. 115	unknown	unknown	unknown	unknown
49. Munich, Antikenmuseum	7741	MC	probably Skating painter	CorVP 229, 454; CVA 3, pls. 144; 5-6; 145: 1-2; AA (1938) 443-444, 454, 457, figs. 27-28; AntK 6 (1963) 52/3 n. 28, 55 n. 48, 57, 60; Wallenstein V/ A 4	Greece (Hopper)	2	2 friezes with chains of women processing with wreaths, spinning implements, trays, a flutist	14.5 cm.
50. New York, Metropolitan Museum of Art	35.11.21	LC	unknown	CorVP 452; Cor V, 214; BMMA (1936) 104-5; figs. 1 -2; Wallenstein VI/ A 4a	from the Canessa coll.	3	shoulder: tongues; main frieze: lotus palmettes	17.0 cm.
51. New York, MMA	06.1021.32	LC NC 1503	unknown	CorVP 452; Richter, 1949, 13, 81, figs. 138-139; Wallenstein VII/ A 7b	unknown	3 with peploi and necklaces	shoulder: tongues; main frieze: loops with vegetation interspersed	unknown
52. New York, MMA	21.88.63	LC NC 1305	unknown	CorVP 296; CorV 214; MMA July 1923, 177; Wallenstein VI/ A 9	unknown	3	sirens and birds, sirens and swans	10.5 cm.
53. New York, MMA	74.51.364 (CP -54)	LC NC 1309		CorVP 598; CorV 215, pl. 31; BMMA (1942), 36-37; Wallenstein VI/ A 10	Cyprus or Corinth	3 (1 missing) with inscribed names	shoulder; tongues: belly, sphinxes and swans	14.3 cm.
54. Olympia	TC 1050	LC	unknown	Olympia IV, 202	unknown	unknown	unknown	unknown
55. Oxford, Ashmolean Museum	1893.125	MC NC 888	Geladakis; near B-1	CorVP 217: B-1; CVA 2, pls. 5:8, 10, 12, 7:9; Wallenstein V/A 3	unknown	3	shoulder: 3 scenes: griffins, sirens, birds; main frieze: panther, swan, sirens, eagles, griffins	unknown



56. Oxford, Ashmolean Museum	1926.22	MC NC 884	unknown	CVA 2 pl. 7:7 (head only); AntK 5 (1962) 6 n. 18; Wallenstein IV/ A 8	unknown	1	fragment	unknown
57. Oxford, Ashmolean Museum (formerly in London)	1933.1662	MC NC 883	Oppenheimer Painter	CorVP 452; Wallen- stein IV/ A 6	unknown	3 short and squat with necklaces	bands of sigmas and checkers	13.0 cm.
58. Oxford, Ashmolean Museum	1947.763	LC	unknown	files C.W. Neef	unknown	unknown	checkers, lotus buds	10.5 cm.
59. Palermo, Museo Nazionale	2885	MC	Athens 931	CorVP 321: A-12; Mont. Ant. 32 (1927) pp. 85, 86; Wallen- stein V/ A 10	Selinus, Malophoros sanctuary	3 full torsos with painted arms	shoulders: 3 scenes: siren between sphinxes, cocks confronting, Boread between panthers; main frieze: 2 riders with tree of life?; bird, pan- ther, siren between sphinxes	23.5 cm.
60. Palermo, Museo Nazionale	1671			files C.W. Neef	unknown	unknown	unknown	unknown
61. Palermo, Museo Nazionale	1648	MC		files C.W. Neef	unknown	fragment	fragment	fragment
62. Palermo, Museo Nazionale	1649	LC	unknown	files C.W. Neef	Selinus	unknown	slanting zig-zag with two lines	unknown
63. Palermo, Museo Nazionale		LC NC 1315	unknown	files C.W. Neef	Selinus	fragment	fragment	fragment
64. Paris, Louvre	MNB 625	MC NC 880	unknown	Necrocorinthia 306; CVA 6, pl. 11:2-3; Wallenstein IV/ A 2	Corinth	3	shoulder: 3 scenes: 2 sphinxes confronting, lotus palmette with 2 sirens; main frieze: palmette between seated sphinxes, lions, sirens	18.0 cm.

LOCATION	MUSEUM NUMBER	DATE AND STYLE	PAINTER	SOURCES	PROVENANCE	HEADS	BODY	HEIGHT
65. Paris, Louvre	E602	LC	unknown	CorVP 522 n. 330; Benson, 86; AJA 60 (1956) 229, pl. 77:44-45; Wallenstein V/ A 1d	unknown	3 with decorated clothing	shoulders: sirens, griffins; main frieze: griffins, swans, lions	unknown
66. Princeton, University Museum	1995-140	LC	unknown	J. Chamay and J.L. Maier, <i>Céramiques corinthiennes. Collection du docteur Jean Lauffenburger</i> (Geneva, 1984) 166-7	unknown	3	"Linear White Style"	0.125 cm.
67. Rome, Villa Giulia	I 671	MC	unknown	P. Mingazzini, Coll. Castellani, 1930, no. 364, pl. 27:3; Wallenstein VII/A 6; CorVP 452	unknown	3	unknown	21.3 cm.
68. St. Louis, Washington University Museum	WU 3263	LC NC 1304	Lotus-Cross	CorVP 259, 389; AJA 44 (1940) 89; Wallenstein VI/A 6	unknown	3 with necklaces and peploi	shoulder: tongues; main frieze: griffins, sirens, lions facing lotus-palmette	13.5 cm.
69. San Simcon, Hearst State Historical Monument	5620 (SSW 9985)	MC NC 889	Stobart	CorV 214; CorVP 224; A-9, 385, pl. 93, 1 a-b; Wallenstein IV/ A 17	Corinth (alleged)	3 with necklaces, peploi, and tops of painted arms	shoulders: symmetrical groupings of heraldic griffins with palmettes; main frieze: sirens, sphinxes, lions	17.4 cm.
70. Syracuse, M.A.N.	12503	LC NC 1307	Severeanu	CorVP 256; NSc (1949), 208 fig. 10A-B; Wallenstein V/ A 6	Fusco Grave	2	shoulder: sirens; main frieze. a.f. panthers, goats	11.1 cm.
71. Taranto	unknown	MC	unknown	files C.W. Neef	Saturo	fragment	fragment	fragment
72. Tübingen, University Museum	5584	LC	unknown	CorVP 452; CVA 1, fig. 28, pl. 35:7-9; Wallenstein VII/ A 7a	unknown	3	tongues on shoulder; lotus palmette frieze	15.3 cm.

73. Tübingen, University Museum	S 724	MC NC 1311	TM 724 painter	CorVP 157; CVA 1, 61, fig. 24, pl. 34; Wallenstein VI/ A 11	Pratica di Mare	2	shoulder: lotus palmettes; main frieze: sirens, panther, 2 winged men	15.2 cm.
74. Tübingen, University Museum	S 725	MC	Hermitage	CorVP 157; CVA 1, 60, fig. 23, pl. 33:1-6; Wallenstein VI/ A 12	Pratica di Mare	2	sirens with lotus palmette; sirens, swans	14.9 cm.
75. Valleggia	K109	MC	unknown	files C.W. Neef	unknown	fragment	fragment	fragment

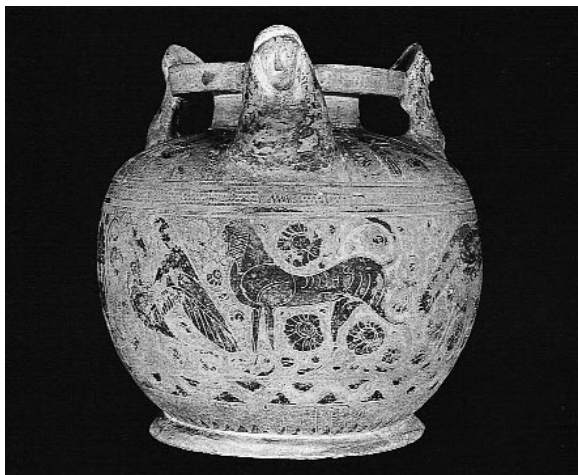


Plate I,1. Animal frieze with lion facing l. and stag facing l.



Plate I,2. Animal frieze with stag facing l., lion facing l., and female figure facing l.



Plate I,3. Animal frieze with lion facing l., female figure facing l. and lion facing r.

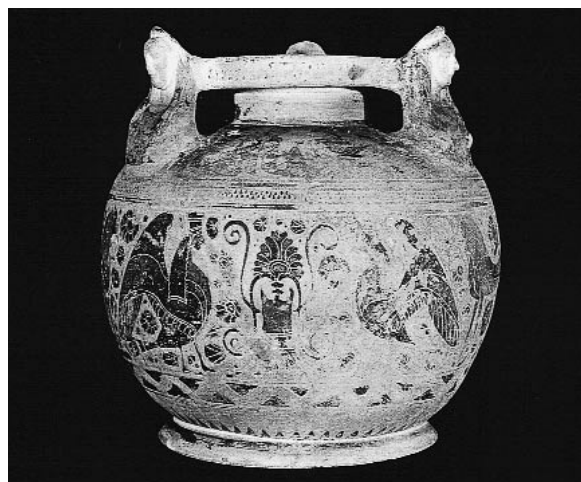


Plate I,4. Animal frieze with siren facing r., lotus-palmette, and siren facing l.



Plate I,5. Head 1.

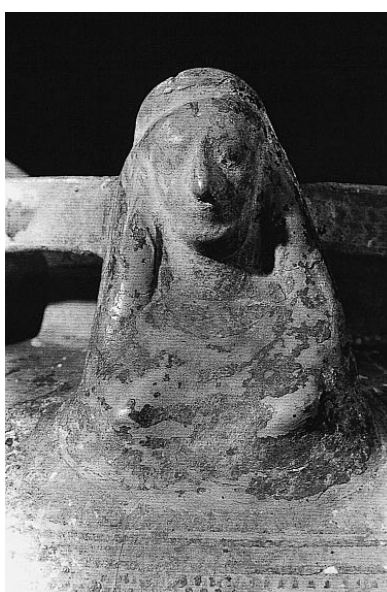


Plate I,6. Head 2.

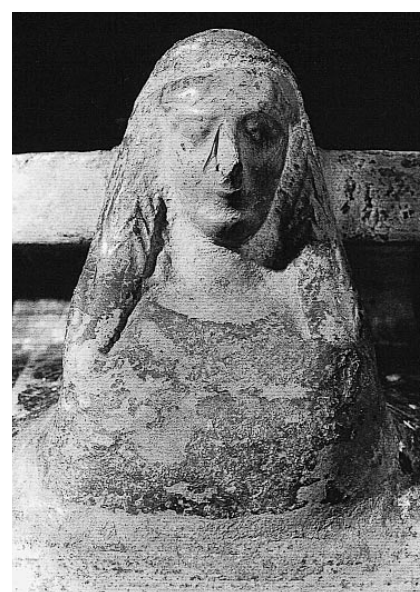


Plate I,7. Head 3.



## A Bronze Cup in the Allard Pierson Museum

H.A.G. Brijder and C.M. Stibbe

With a contribution by R. Leenheer

A remarkably well preserved bronze cup has recently been acquired, together with a bronze spoon, by the Allard Pierson Museum, Amsterdam (inv. nos. 13.344, 13.345)<sup>1</sup>. Technological research shows that the cup's handles and foot have not, in the usual manner, been soldered onto the bowl but that a 'packing' of almost pure tin was used for their attachment by means of silver rivets. The questions of where and when the Amsterdam cup could have been made are explored below. For this purpose it is compared to other stemmed metal cups: a bronze example in Nicosia and two silver cups recently excavated at Vani and Sairkhe, in Georgia, to which Michael Vickers drew our attention. Parallels can also be cited among fictile cups made in Attica (lip-cups) and Laconia. The Amsterdam cup's place of manufacture cannot be determined, however. Perhaps, to adopt Vickers' words, it can be best regarded as belonging to 'an international style of silverware'.

### DESCRIPTION OF THE CUP (FIGS. 1-4)

The small cup is constructed of four parts, riveted and soldered together (ht. 8.1-8.4 cm, rim diam. 13.2-13.6 cm, diam. across handles 16.0-16.1 cm, wall's thickness c. 0.2 cm). These comprise a rather high foot (ht. 3.9 cm, base diam. 5.8-5.9 cm, diam. of top 1.8 cm), a wide bowl with offset lip (ht. 1.8 cm) and handles (diam. 0.6 cm) with palmettes at their bases. The foot's stem has a rather straight and nearly vertical profile; the curving lower section flares out to a nearly horizontal base and standing surface. The top of the stem is closed off at the top by a 'ceiling' and attached to the bowl with a silver rivet which has a large solid silver, hemispherical knob (max. ht. 0.7 and diam. 1.0 cm). The high and straight lip slants outwards; on one side there is a break consisting of two cracks. The handle-palmettes have a roundish shape (max. length 1.5-1.6 cm) and a wavy outer contour defining the tips of leaves. The incised details comprise a line for the curving core, lines between the leaves and a short curl on each outermost leaf. The palmettes are attached to the bowl by small silver rivets which have been driven more or less through the centres of the palmettes<sup>2</sup>.

### DESCRIPTION OF THE SPOON (FIG. 2)

Allegedly this bronze spoon was found together with the cup. Made in one piece, the spoon's maximum length is 13.5 cm. The handle is straight (7.1 cm long) and ends in a swan's (or duck's?) head; the bowl is oval (max. length 5.5 and width 3.2 cm) and slightly concave, with faintly turned-up edges. The handle meets the bowl at a rather sharp angle. The bird's beak curves up and its eyes are indicated by incised circles. The spoon's patina looks the same as that of the cup's handles.

### TECHNOLOGICAL OBSERVATIONS REGARDING THE CUP<sup>3</sup>

The cup's metal is a gold-coloured copper alloy which is now covered with two patina layers: a red *cuprite*, copper-I-oxide ( $\text{Cu}_2\text{O}$ ) under a green *malachite* layer, a basic copper carbonate ( $\text{Cu}_2(\text{OH})_2\text{CO}_3$ ). The break in the lip is also covered with the same red and green patinas. On the cup's handles the build-up of the patina is slightly different: the upper

<sup>1</sup> Amsterdam, Allard Pierson Museum inv. nos. 13.344 (cup) and 13.345 (spoon); bought in the New York art market in 1995, with the financial support of Dr J.L. Theodor (Brussels), the late Th. Polet (Castricum), Drs H.A. Mulder and R.J. Schulp (Amsterdam). Bibl.: H.A.G. Brijder, *Mededelingen Amsterdam* 65, 1996, 6-8, Figs. 10-12a-c. The photographs of the Amsterdam cup in Figs. 1-2 are by M. Bootsman (Allard Pierson Museum) and G. Strietman made the drawings (Figs. 3, 4a-c). We are very grateful to Dr M. Vickers for his useful suggestion and the permission to illustrate his photograph of the cup in Fig. 7. We wish to thank the following museums for permission to illustrate photographs of cups in their collections: Cyprus Museum, Nicosia (Fig. 5a) and Ashmolean Museum, Oxford (Fig. 8a). Fig. 5b is after M.-J. Chavane, *Vases de bronze du Musée de Chypre (IX-IVe s. av. J.-C.). Collection de la Maison de l'Orient Méditerranéen* No. 11, *Série Archéologique* 9 (Lyon 1982) 47 fig. 64; Fig. 6 is after A. Miron and W. Orthmann, *Unterwegs zum goldenen Vlies, Archäologische Funde aus Georgien* (Saarbrücken 1995), 135 fig. 128; Fig. 8b is after *Siana Cups* I, pl. 79; Fig. 9a is by Dr J.L. Theodor, Brussels and Fig. 9b is after P. Heesen, *The J.L. Theodor Collection of Attic Black-Figure Vases, Allard Pierson Series* 10 (Amsterdam 1996), 139 fig. 93; Fig. 9c is after CVA Munich 10, pl. 8.6; Figs. 10-21 are all after *LV* and *LBP* 2.

<sup>2</sup> That the rivets are ancient seems to be beyond doubt, because they are covered with the same greenish patina as seen on the bowl and foot.

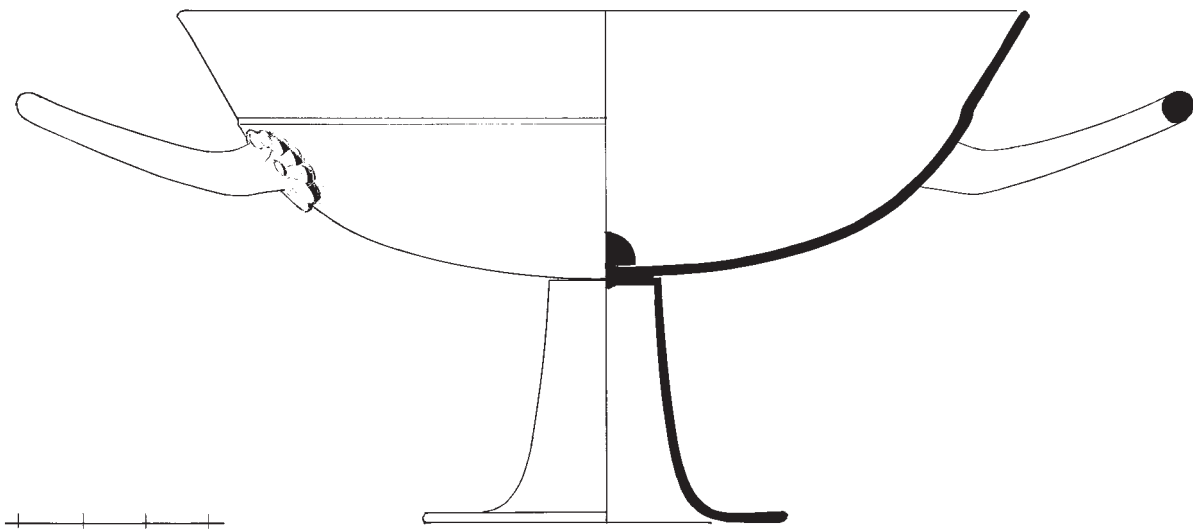
<sup>3</sup> Observations made by R. Leenheer, conservation department of the Allard Pierson Museum. We are grateful to J.F.W. Koens for his useful suggestions.



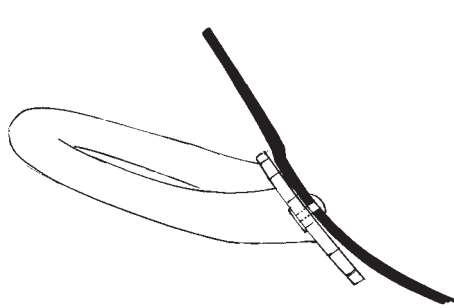
*Fig. 1. Bronze cup, Amsterdam 13.344*



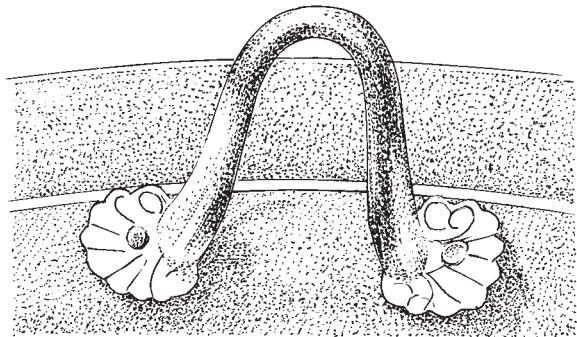
*Fig. 2. Bronze cup and spoon, Amsterdam 13.344 and 13.345*



*Fig. 3. Profile drawing of bronze cup, Amsterdam 13.344*



*Fig. 4a. Drawing of handle attachment, with rivet driven through palmette. Bronze cup, Amsterdam 13.344*



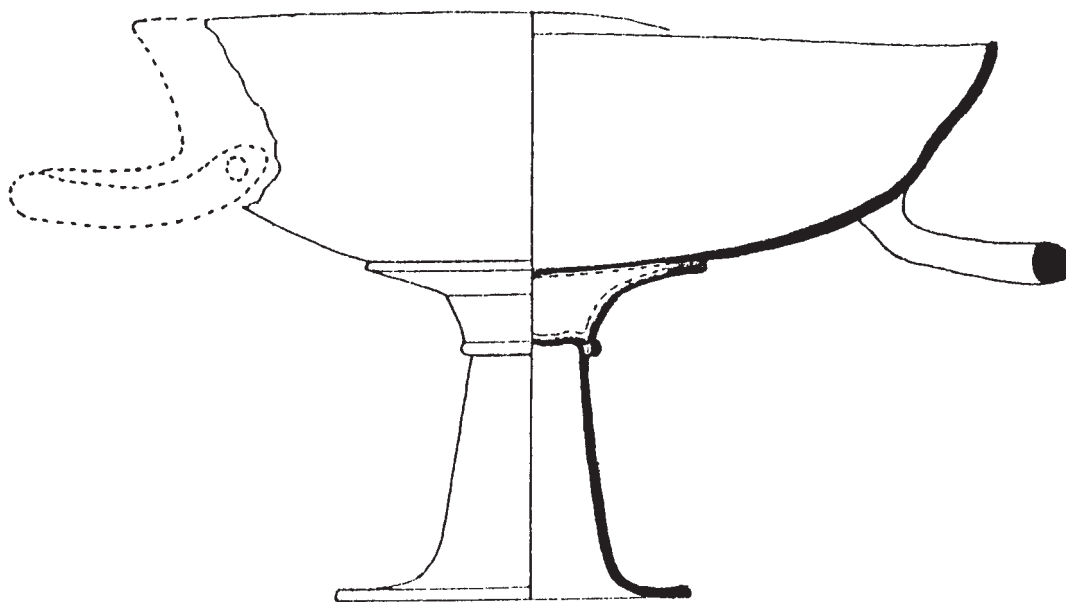
*Fig. 4b. Drawing of handle with palmettes riveted on body of bronze cup, Amsterdam 13.344*



*Fig. 4c. Line drawing of handle-palmette, bronze cup, Amsterdam 13.344*



*Fig. 5a. Bronze cup, Nicosia, Cyprus Museum 1952/VII-4/6*



*Fig. 5b. Profile drawing of bronze cup, Nicosia, Cyprus Museum 1952/VII-4/6*

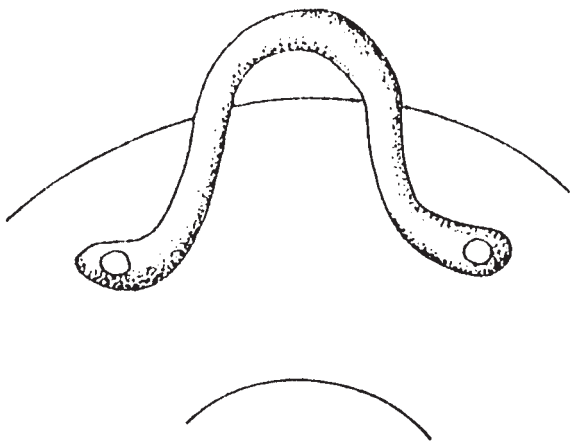


Fig. 5c. Drawing of handle riveted on body of bronze cup, Nicosia, Cyprus Museum 1952/VII-4/6



Fig. 6. Silver, partly gilded, cup from Vani, Tbilisi Archaeological Museum 10-975:99-100

layer, in colour, is dark brown to black, which suggests the presence of *tenorite*, copper-II-oxide (CuO), and is only sparsely covered by green *malachite*. Apparently the handles metallurgically differ somewhat from the bowl and foot.

The handles were joined to the bowl not only by silver rivets but also, it seems, by a kind of 'solder'. The latter was analysed and proved to consist for the most part of tin (83.18%, see the Appendix)<sup>4</sup>. The usefulness of these tin layers as soldering seems questionable because they are much thicker (0.2 cm) than is usual for soldering (that is, a fraction of a millimetre) and do not adhere to the copper surface. It therefore seems likely that they were meant to act as a sort of flexible packing between the palmettes and the side of the bowl when the rivets were driven. Could the tin layers have further served to seal the holes made for the rivets? Tin is very malleable and, when used as a packing material, could make the holes watertight, at least for a period of time. The construction of the join of the bowl and foot was undoubtedly somewhat different than it is today. The two parts, as noted, are connected only by a prominent silver rivet with hemispherical head, positioned somewhat off-centre. But the rivet is about 0.2 cm too long and mechanically too weak to assure a firm attachment: the bowl is now loose and can be rotated eccentrically over the foot. Presumably there was a layer of material between it and the foot, which has vanished. This is indicated not only by the space between the parts (0.2 cm, solder has not been detected) but by the fact that the foot has a 'ceiling'. Most likely, the foot was attached to the bowl by the same method as the handles were, and a layer of tin, 0.2 cm thick, was

inserted between the parts<sup>5</sup>. It is curious that the rivets of the handles and foot are made of silver, which is a quite weak (and costly) material, rather than of copper (or bronze).

We can speculate whether the cup's joins are original or the result of ancient repair? Undoubtedly a competent smith of the sixth-century B.C. would have been able to complete such a fine and costly product by delicately and securely soldering the joints without having to depend on rivets. Possibly, after much use, the cup's handles and foot came loose and were reattached by means of an alternative method involving tin packing and silver rivets.

#### OTHER STEMMED METAL CUPS

The shapes of several bronze cups are discussed in relation to that of Attic Pre-Komast, Komast and Siana cups in *Siana Cups* I, 36-37. But insofar as known, only one bronze cup also has a stemmed foot: Nicosia 1952/VII-4/6 (Fig. 5a-c). It is missing a handle and slightly larger than the Amsterdam cup; further, the lip is convex and only vaguely offset<sup>6</sup>.

<sup>4</sup> For 'soft' soldering at low temperatures an alloy of tin and lead was (and still is) commonly used in combination with resin or beeswax as an antioxidant for an optimal fusion between the solder and the copper alloy. In the sixth century B.C. this was common knowledge; see Cronyn, 162.

<sup>5</sup> The dark greyish solder spot on the lowest section of the bowl's exterior and the foot's upper section probably results from a relatively recent attempt to affix the foot to the bowl.

<sup>6</sup> M.-J. Chavane, *Vases de bronze du Musée de Chypre (IXe-Ive s. av. J.-C.)*. Collection de la Maison de l'Orient Méditerranéen No. 11, Série Archéologique 9 (Lyon, 1982), 46-47 no. 31, figs. 63-64.





Fig. 7. Silver cup from Sairkhe, Tbilisi Georgian Art Museum (photograph by M. Vickers)

The lower part of the foot is almost identical with that of the Amsterdam cup. The top of the stem, on the other hand, is surrounded by a wide concave collar which fits under the bowl. The collar's lower edge is a thin, convex moulding. The handle is riveted to the bowl. This bronze stemmed cup has been compared to Attic Little Masters and its proposed date is the end of the sixth century B.C.<sup>7</sup> The collar calls to mind the reserved, tooled band around the stems of many Attic and Laconian Droop cups. Michael Vickers kindly pointed out two stemmed cups made of silver, comparable in shape to the Amsterdam cup. Both of them were excavated in Georgia. One of them came to light in 1969 in a wealthy woman's tomb at Vani (Fig. 6). It resembles the Amsterdam cup by its more or less identical dimensions and was also found together with a spoon<sup>8</sup>. The decoration is richer, however. A delicate beaded pattern surrounds the edge of the foot; gilded ovolos mark the band at the junction of the foot and bowl; and there are gilded tongues on the leaves of the palmettes at the handles<sup>9</sup>. The spoon is also more elaborate than the one in Amsterdam, with a sphinx on the handle. The Vani cup has been identified as Attic and assigned to the second quarter of the fifth century B.C.<sup>10</sup> If correct, the Amsterdam cup cannot be dated as early as one

might conclude from its correspondences with Attic fictile cups (see below). The second silver cup with stemmed foot has been discovered at Sairkhe (Georgia) and is illustrated in Fig. 7<sup>11</sup>.

<sup>7</sup> *Id.*, 46.

<sup>8</sup> Tbilisi, Archaeological Museum inv. no. 10-975:99-100 (spoon: 10-975:104). Cup: ht. 9.0 cm; rim diam. 10.5 cm. Note also the slightly smaller and different silver cup found in the same tomb. O. Lordkipanidze, 'La civilisation de l'ancienne Colchide aux Ve-IVe siècles (à la lumière des plus récentes découvertes archéologiques)', *RA* 1971, 261, 280, fig. 16; *id.*, Vani VII, *Archaeological Excavations* (Tbilisi 1983), 90, figs. 405, 409 (spoon); K. Matchabelli, *Argentérie de l'ancienne Géorgie* (Tbilisi 1983), 94 no. 9, fig. 9; O. Lordkipanidze, 'Das alte Kolchis und seine Beziehungen zur griechischen Welt vom 6. zum 4. Jh. v.Chr.', *Xenia* 14 (Konstanz GMBH 1985), 37; *id.*, *Archäologie in Georgien. Von der Altsteinzeit zum Mittelalter*, in *Quellen und Forschungen zur prähistorischen und provincialrömischen Archäologie* (Weinheim 1991), 130 pl. 26.3; A. Miron and Winfred Orthmann, *Unterwegs zum goldenen Vlies. Archäologische Funde aus Georgien* (exhib. cat. Museum für Vor- und Frühgeschichte, Saarbrücken 1995), 135, 300 no. 283, fig. 128; M. Vickers, *Proceedings of the 7th Vani Symposium*, forthcoming.

<sup>9</sup> Information provided by M. Vickers; according to him, 'the bowl is beaten from one piece and has a punch mark in the centre'.

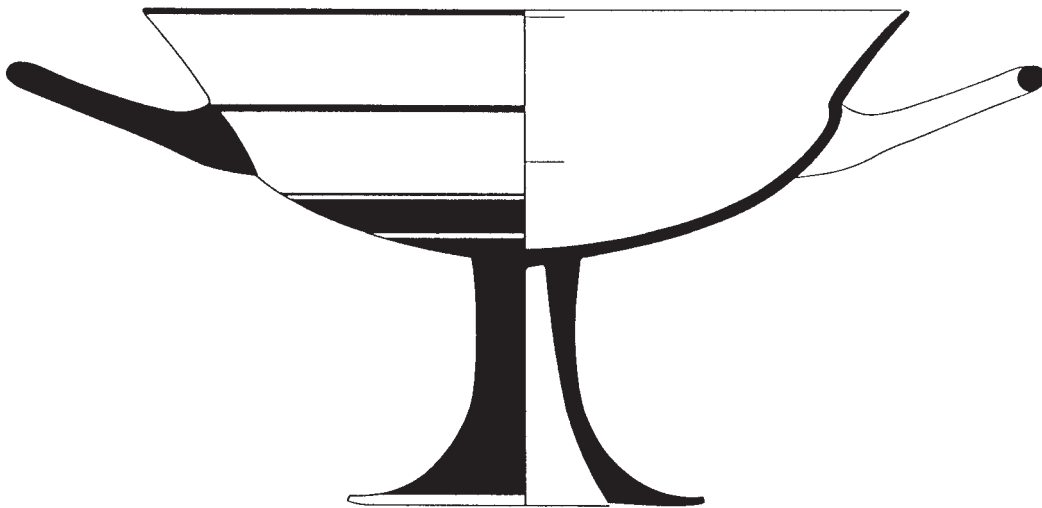
<sup>10</sup> See n. 8.

<sup>11</sup> Tbilisi, Georgian Art Museum.





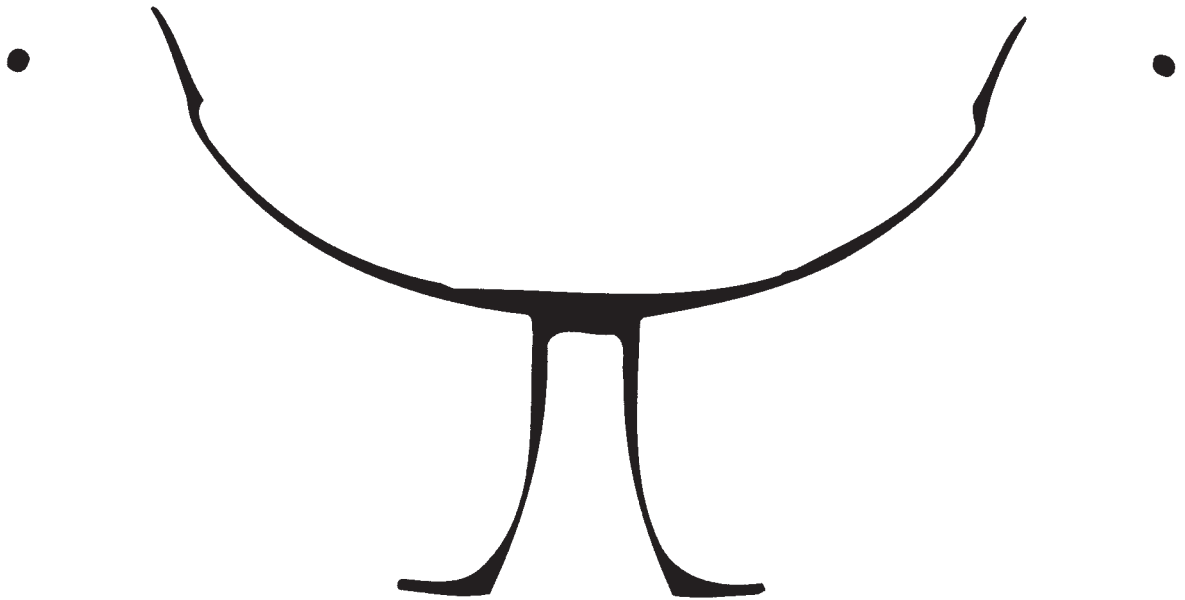
*Fig. 8a. Lip-cup by the C Painter, c. 565 B.C., Oxford 1965.120*



*Fig. 8b. Drawing of lip-cup by the C Painter, Oxford 1965.120*



*Fig. 9a. Lip-cup signed by Tleson, c. 545 B.C., Brussels, Theodor collection*



*Fig. 9b. Computer Tomograph scan of lip-cup signed by Tleson, c. 545 B.C., Brussels, Theodor collection*



Fig. 9c. Handle-palmette, lip-cup signed by Tleson, c. 545, Munich 2127

#### AN ATTIC CONNECTION?

##### Shape

In shape, the Amsterdam cup generally resembles the fictile lip-cups of Attica. The manufacture of the earliest Attic lip-cup is attributed to the C Painter and dated to around 565 B.C.; the latest examples belong to the last quarter of the sixth century. The shape of the earliest known lip-cup by the C Painter, Oxford 1965.120 (Fig. 8a-b)<sup>12</sup>, and that of the bronze cup in Amsterdam (Fig. 3) are quite similar: a slender foot with horizontal standing surface, a bowl with wide body and slightly convex shoulder, a rather blunt, Siana-like offset and a high and rather straight lip, which is turned out. But the sharp inner edge of the standing surface of the C Painter's cup markedly differs from the curving transition of the foot of the Amsterdam cup. The potter finished the foot by turning with a metal tool<sup>13</sup>. A fictile lip-cup made twenty years later, signed by Tleson (Fig. 9a-b), although twice as high, serves as another example of the general similarity between the type and the Amsterdam cup (Fig. 3)<sup>14</sup>. In Tleson's cup the inner edge of the standing surface and the inner offset of the lip are sharply angled, nearly triangular in cross-section, as is characteristic of Attic lip-cups as a whole.

##### Palmettes

The stylistically distinguishing traits of the Amsterdam cup are limited to the handle-palmettes (Fig. 4b-c). With an overall roundish shape and a wavy contour forming the edges of the leaves, they generally resemble the handle-palmettes of the average Attic Little Master which, however, are invariably positioned on the vertical rather than the horizontal axis and have S-shaped stems by which they are attached to the handles. In the handle-palmettes of the above-mentioned lip-cup by Tleson,

for example, we see comparably incised contour lines marking the cores and the leaves; and the curly line on each side of the palmettes of the Amsterdam cup might be abbreviated versions of the curly stems (cf. Figs. 4c, 9c).

The curving incisions paralleling the tips of the leaves of the bronze palmettes of the Amsterdam cup seem never to be repeated in vase-painting.

If we ask ourselves whether the handle-palmettes of cups appeared first in metalware or in vase-painting, the answer remains ambiguous. A metal handle requires flattened ends by which it can be attached to the bowl. These functional elements might have then been decorated in imitation of the standard handle-palmettes of fictile lip-cups. But since the painted handle-palmettes with S-shaped stems are purely decorative, they may well derive from the handle-palmettes of metal cups, which are further linked with the functional trait of a flattened surface for the handle's attachment. Obviously it is impossible to say which technique influenced the other.

#### A LACONIAN CONNECTION?

Since a firm attribution to an Attic workshop turns out to be impossible, it is worthwhile to consider the possibility that the bronze cup in the Allard Pierson Museum was manufactured in Laconia. After all, the shape was a favourite one among Laconian potters. They, in fact, specialized in it (see *LV*, 6-8). So it is an obvious supposition that also the contemporaneous Laconian smiths who produced metal vessels had a preference for the same shape. The possibility increases in likelihood when we consider that substantial remains of Laconian bronze vessels from the sixth century B.C. have actually come down to us, indicating a large output of metalware in Laconia. Most prolific are the bronze hydriae, but also other Laconian bronze vessels, like kraters and aryballoi, have been preserved<sup>15</sup>. However, with the exception of a few loose handles which could, but do not necessarily, belong to bronze cups<sup>16</sup>, Laconia

<sup>12</sup> See *Siana Cups* I, 142 n. 352, pl. 79.

<sup>13</sup> See J.V. Noble, *The Technique of Painted Attic Pottery* (rev. ed., London 1988), 28-30, esp. figs. 28, 36-37.

<sup>14</sup> P. Heesen, *The J.L. Theodor Collection of Attic Black-Figure Vases, Allard Pierson Series* 10 (Amsterdam 1996), no. 33, figs. 93-95, pl. 33.

<sup>15</sup> C.M. Stibbe, 'Archaic Bronze Hydriae', *BABesch* 67 (1992) 1-62; id., *Laconian Mixing Bowls, Laconian Black-glazed Pottery* 1 (1989) 59-65. H.E. Schleiffenbaum, *Der griechische Volutenkrater* (1991) 32f., 106f. C.M. Stibbe, *Laconian Oil-flasks and Other Closed Shapes, Laconian Black-glazed Pottery* 3 (forthcoming), Introduction to the aryballoi.

<sup>16</sup> See *BSA* 28 (1926/7) pl. XI, no. 24. *BABesch* 68 (1993) 94 fig. 53 no. 35.

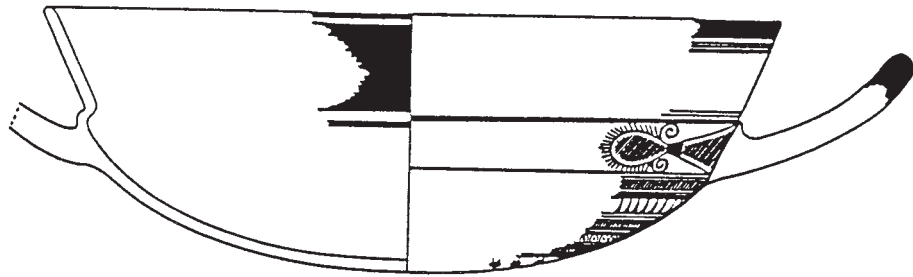


Fig. 10. Drawing of black-figure cup by the Boreads Painter, c. 575-570 B.C., Louvre E 663

has not yielded any trace of such a cup. Furthermore, the remains of a bronze cup are not among the published finds from places to which Laconian metalware was exported, like Olympia. But simply the chance that we might now have a well-preserved Laconian bronze kylix which, so to speak, suddenly appeared out of nowhere, makes the study of the Amsterdam cup all the more exciting. The aspects of shape and decoration are separately considered.

#### Shape

The characteristic features of the shape of the Amsterdam cup are, in my view, the practically straight, slanting lip, the rather deep bowl, the thin, elegant handles and the heavy foot. All of them find rather exact parallels in Laconian fictile cups<sup>17</sup>.

The combination of a nearly straight lip and a rather deep curving bowl is, as such, not a very elegant solution for a cup of this type. By contrast, less stiffly shaped vessels of the same type were fashioned by Laconian and Attic potters. These cups either have a concave outer lip which contrasts with the convex shape of the bowl (as favoured by Attic potters, see Fig. 9a-b); or a convex lip which continues the convex curve of the bowl, being marked off from it by only a slight offset (the solution preferred by Laconian potters).

In Laconia, the straight, slanting lip was, as it were, the second regular choice of potters for cups with stemmed feet, after the far more popular convex lip<sup>18</sup>. The oldest Laconian cups with a straight, slanting lip appear in the work of the Boreads Painter (Fig. 10), all of whose cups show this trait<sup>19</sup>. Whereas his colleague, the Naucratis Painter (or his potter), tried out all possible designs for the lip: straight, convex or even concave<sup>20</sup>. Both painters started around 575 B.C. Therefore the straight, slanting lip can virtually be considered an indigenous feature of Laconian cups, even though from about 565 B.C. on a general preference for a convex lip can be discerned<sup>21</sup>.

The rather deep, almost sagging shape of the bowl of the Amsterdam cup is not often repeated in Laconian fictile cups. Only two examples can be cited: a very fine cup in Munich, decorated by the Naucratis Painter and also provided with a straight, but less slanting, lip (Fig. 11)<sup>22</sup>; and a black-glazed cup from Tocra (Fig. 16)<sup>23</sup>. Both date to the middle years of the second quarter of the sixth century B.C. On the other hand, the long and elegant handles of the Amsterdam cup, with their distinctive bend near the attachment to the bowl, find equivalents in the majority of the selected parallels (Figs. 10, 12-17). With regard to the foot, it is difficult to decide whether its rather heavily shaped stem (broad in cross-section) is due solely to the fact that it is made of metal. Very probably, it instead reflects a deliberate choice on the part of the smith; for the silver

<sup>17</sup> I have chosen three black-figure and five black-glazed Laconian cups, Figs. 10-17. 1, Louvre E 663; lip diam. 18.4 cm.; LV 96, 275 no. 121, fig. 7, Boreads Painter, 575-570 B.C. 2, Munich, Staatliche Antiken-Sammlungen 382; lip diam. 22.6 cm.; LV 50, 73f., 271 no. 29, fig. 11, Naucratis Painter, 565-560 B.C. 3, Cabinet des Médailles 190; lip diam. 21.0 cm.; LV 164f., 285 no. 289, pl. 94, fig. 13, Rider Painter, 565-560 B.C. 4, Louvre S 1736; lip diam. 17.3 cm.; LBP 2, 73, 188 no. G24, fig. 266; black-glazed, 570-560 B.C. 5, Taranto, Museo Nazionale 52149; lip diam. 18.0 cm.; LBP 2, 73, 188 no. G25, fig. 267; black-glazed, decorated medaillon, 560-550 B.C. 6, Netherlands, private coll.; lip diam. 18.4 cm.; LBP 2, 73, 189 no. G26, fig. 268, pl. 13, 4-5; black-glazed, decorated medaillon, 560-550 B.C. 7, Tocra, store; lip diam. 17.0 cm. Tocra I, 117 Type II, 128 no. 1308, fig. 59; black-glazed, second quarter of the sixth cent. B.C. 8, Tocra, store; lip diam. 19.3 cm.; Tocra I, 117 Type II, 128 no. 1309, fig. 59, dated like no. 7.

<sup>18</sup> See LV 18, Formgruppe I; 20 Formgruppe IV; 21 Formgruppe V; 24 Formgruppe VI; 24 Formgruppe VII. A straight lip seems to be preponderant before 560 B.C., when the production of cups with convex lips begins (LV 29ff., Formgruppe VIII).

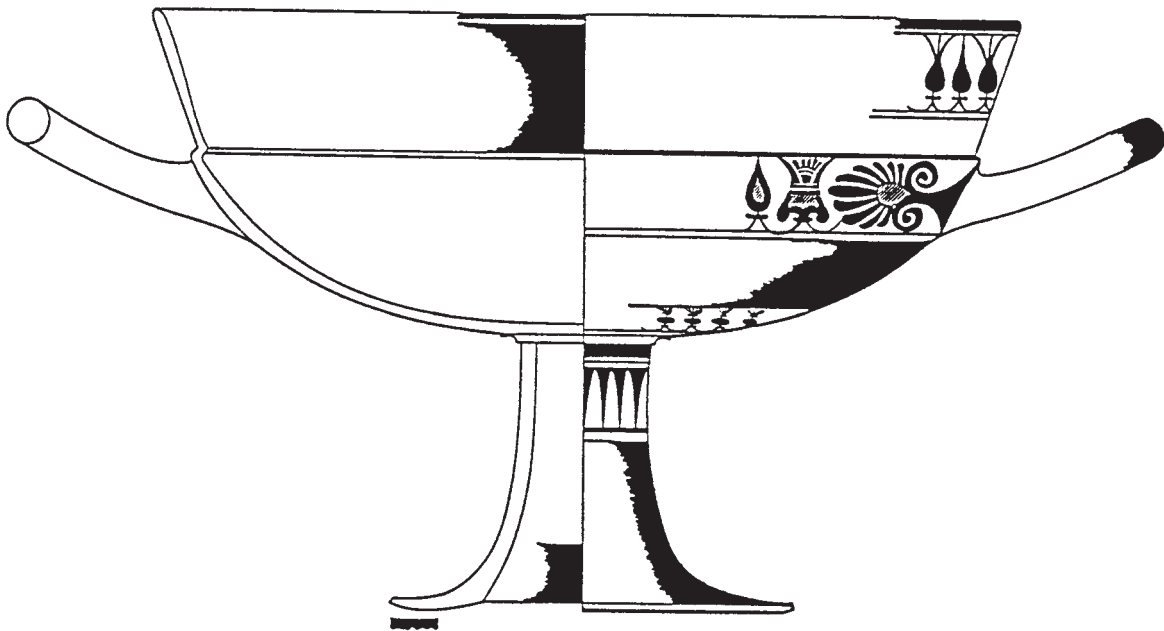
<sup>19</sup> See LV 21, Formgruppe V.

<sup>20</sup> Straight: LV 24, fig. 11 (here Fig. 11); convex: LV 29, fig. 24; concave: LV 20, fig. 3.

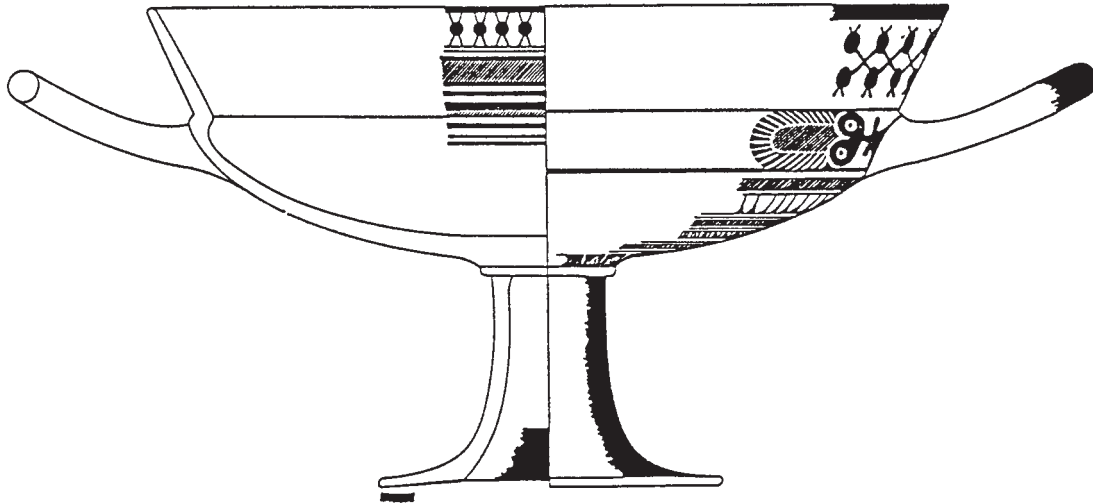
<sup>21</sup> See n. 4 above. LV 29, Formgruppe VIII is followed by Formgruppe IX, cups from around 555-530 (LV 37ff.).

<sup>22</sup> See n. 17 above, no. 2.

<sup>23</sup> See n. 17 above, no. 7.



*Fig. 11. Drawing of black-figure cup by the Naucratis Painter, c. 565-560 B.C., Munich, Staatliche Antikensammlungen 382*



*Fig. 12. Drawing of black-figure cup by the Rider Painter, c. 565-560 B.C., Cabinet des Médailles 190*

cup from Vani (Fig. 6) clearly shows that a more slender foot, precisely like that of an Attic lip-cup (*cf.* Fig. 9a), could also be fashioned in metal. Then, if the smith of the Amsterdam cup adhered to an existing norm, it may well have been that of the

comparably heavy-stemmed feet of most Laconian fictile cups cited above (Figs. 11-17). But it must be remarked that the combination of a stiffly formed stem, with nearly straight sides, and a wide, flat standing surface is more or less repeated only in



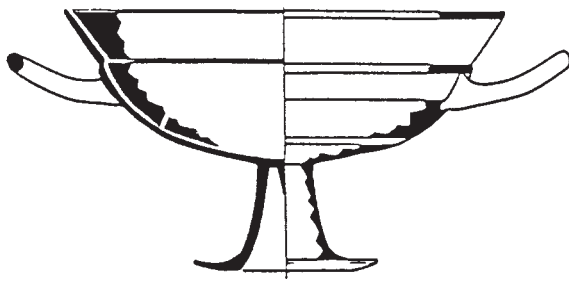


Fig. 13. Drawing of black-glazed cup, c. 570-560 B.C., Louvre S 1736

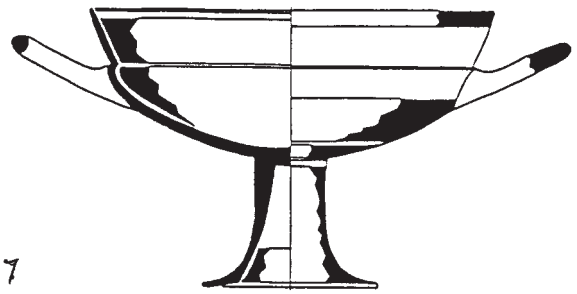


Fig. 14. Drawing of black-glazed cup, c. 560-550 B.C., Taranto, Museo Nazionale 52149

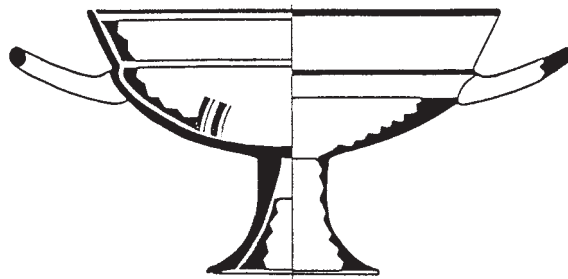


Fig. 15. Drawing of black-glazed cup, c. 560-550 B.C., private collection, Netherlands

Fig. 13. A strikingly similar stem occurs on the bronze stemmed cup in Nicosia (Fig. 5a)<sup>24</sup>. It needs to be stressed, finally, that the Amsterdam cup, with a rim diameter of 17.0 cm, is somewhat smaller than most of the above-mentioned Laconian parallels, the narrowest being also 17.0 cm (Fig. 16), the widest 22.6 cm (Fig. 11)<sup>25</sup>. In conclusion, the shape of the Amsterdam cup resembles, in many respects, some Laconian fictile cups dating from the second quarter of the sixth century B.C. There are evident differences, however, in the shape of the foot and the smaller size. Therefore the correspondence with Laconian cups is only of a general nature and, in degree, not greater than that which can be seen in similarly shaped cups from other production centres, like Attica<sup>26</sup>.

#### Palmettes

Apart from the silver rivets fastening the handles to the bowl and from the larger silver rivet with solid silver head which, curiously enough, joins the foot and bowl, the only adornments of the Amsterdam cup are the four handle-palmettes, which are very similar in appearance (Fig. 4a, c). They were cast in one piece with the handles, creating a larger surface

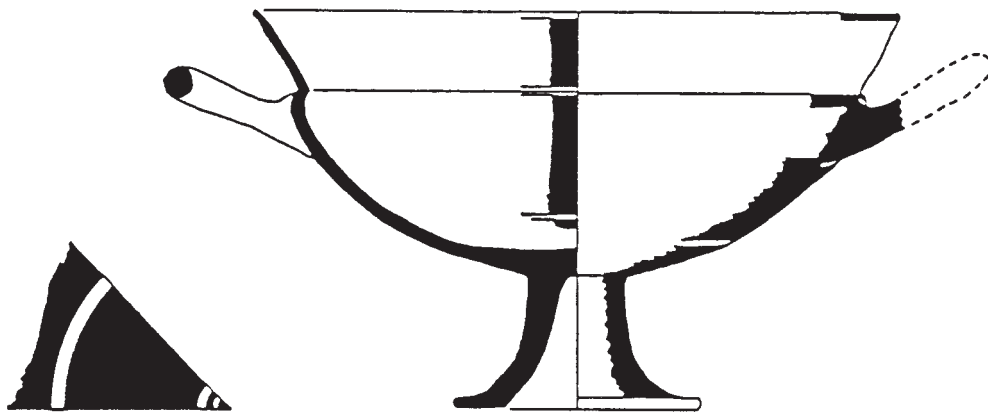
for the attachment of the handles and providing the kind of decoration which is usual for the handles of Greek Archaic bronze vessels. In comparison with the handle-palmettes of such vessels, those of the Amsterdam cup are clumsily shaped and carelessly incised, so that they appear to be qualitatively incongruous on a cup which has rivets of expensive silver. This contrast cannot easily be accounted for<sup>27</sup>.

<sup>24</sup> A foot of comparable shape occurs on the silver cup from Sairkhe, Fig. 7, which, however, because of the shape of its body and handles, should be dated much later (see above).

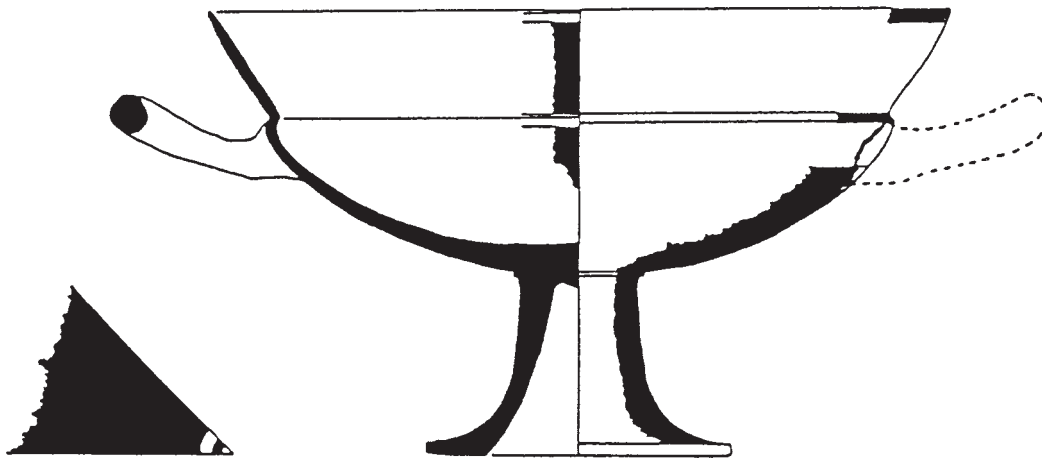
<sup>25</sup> This possibly creates another problem because Laconian cups generally tend to become small only after the middle of the sixth cent. B.C. (see C.M. Stibbe, *BABesch* 46, 1971, 75-87); whereas the parallels in Figs. 10-17 all date from before 550 B.C. Small Laconian cups dated earlier than 550 have been preserved only as fragments (*LV* 16, 23f, *Formgruppe* VI, about 575-565 B.C.), which makes it difficult to compare them.

<sup>26</sup> Some *Attic* black-glazed cups from Tocra (e.g. *Tocra* I, 132 fig. 64 nos. 1352, 1353) show the same characteristics of shape as the cited Laconian cups from Tocra (see n. 17 above).

<sup>27</sup> We must also consider the possibility that the silver rivets were added during a later repair when the cup's importance increased as a result of its becoming a votive offering or an object of someone's personal preference. This would also help to account for the strange solid silver knob inside the bowl, which appears not to agree with the cup's original use as a drinking vessel; for the normal way of fastening the foot to the bowl



*Fig. 16. Drawing of black-glazed cup, second quarter of the sixth century B.C., Tocræ, store*



*Fig. 17. Drawing of black-glazed cup, second quarter of the sixth century B.C., Tocræ, store*



*Fig. 18. Drawing of handle-palmette by the Naucratis Painter, c. 565-560 B.C.*



*Fig. 19. Drawing of handle-palmette by the Naucratis Painter, c. 565-550 B.C.*



Fig. 20. Drawing of handle-palmette by the Boreads Painter, c. 570-665 B.C.



Fig. 21. Drawing of handle-palmette by the Boreads Painter, c. 570-665 B.C.

Disappointingly, my survey of Archaic Greek bronze handle-palmettes published elsewhere in this volume does not offer a definite clue as to the origin of the Amsterdam cup. The nearest comparisons are seen in equally clumsy palmettes of some handle attachments from Cyprus (see p. 49 of this volume, Figs. 1, 20-21). But these palmettes are convex (not flat) and have been dated to the end of the seventh and the beginning of the sixth centuries B.C.<sup>28</sup> The evidence from Cyprus is too scanty to suppose that the handle-palmettes of bronze cups manufactured there possess a distinctive style. Nevertheless a theory of Cypriot workmanship for the Amsterdam cup remains tempting because the only bronze kylix which it resembles, as we have seen, is in Nicosia, though not decorated with palmettes (Fig. 5a-b).

When considering handle-palmettes, of course, we cannot ignore the numerous examples painted on Laconian clay cups. Especially black-figure cups like those in Figs. 10-13 always show horizontal handle-palmettes<sup>29</sup>. Unlike those of the Amsterdam cup, however, these palmettes are invariably stemmed. Each Laconian vase-painter developed his own version of the ornament<sup>30</sup>. The resulting diversity gives a clear impression of the liberty and imagination of Laconian painters, while obscuring the prototype on which all their palmettes would ultimately be based: most probably the prototype came from the repertoire of Laconian metalworkers. In short, it is not possible to establish a direct connection between the handle-palmettes of the bronze cup in Amsterdam and those by one or more Laconian painters. The most similar examples appear on cups by the Naucratis Painter and the Boreads Painters, whose palmettes have equally rounded tips but are otherwise much more sophisticated (Figs. 18-21)<sup>31</sup>.

#### CONCLUSION

Although the bronze cup in Amsterdam obviously bears a marked resemblance to Attic and Laconian

fictile cups, the individual points of similarity are not strong enough to warrant an attribution to Attica or Laconia. It does not necessarily follow, however, that the cup was not made in either place.

Similarly, a consideration of the very few other extant stemmed cups made of silver or bronze hardly brings us further. The closest known parallel in metal is the poorly preserved bronze kylix in Nicosia (Fig. 5a-b); the similarity is most evident in the foot. Moreover, this cup demonstrates how a stemmed foot would normally have been attached to the bowl by means of a separate collar, a detail which is often echoed in Laconian painted cups.<sup>32</sup> As to the dating, most Laconian fictile cups of comparable shape point to the second quarter of the sixth century B.C.; only the small size of the Amsterdam cup might make one consider the third quarter, as we have seen above. The Attic parallels, on the other hand, suggest a date between about 565 and 540 B.C.

The lack of evidence for a convincing attribution of the bronze kylix in the Allard Pierson Museum to a specific production centre, whether Laconia, Attica

is seen in the bronze cup in Nicosia, Fig. 5 a-b: the collar at the top of the shaft was fastened with lead to the bowl, so that there was no need to make a hole through which liquid might escape, as occurs in the Amsterdam cup. That such a collar was normal, at least in Laconia, is demonstrated by the many imitations of such collars in Laconian clay cups; see n. 32 below.

<sup>28</sup> See Gauer 1991, 85, and the article on bronze palmettes in this volume, Subgroup II D, nos. 20 a-b, 21, fig. 1.

<sup>29</sup> Even Laconian black-glazed cups are sometimes equipped with painted and incised handle-palmettes; e.g. *Tocra* I, no. 1007, pl. 68, and *LBP* 2, figs. 269, 270, pls. 14.2-6, 15.2, 15.5.

<sup>30</sup> Naucratis Painter: *LV*, 50, nos. 1-14; Boreads Painter: *LV*, 92 nos. 12-17; Arkesilas Painter: *LV*, 112, nos. 12-13; Hunt Painter: *LV*, 120, nos. 7-12; Rider Painter: *LV*, 159, nos. 6-10; 160, nos. 1-5; other painters: *LV*, 179, nos. 13, 16; 180, nos. 5, 11, 21.

<sup>31</sup> *LV*, 59, nos. 11, 12; 92, nos. 16, 17.

<sup>32</sup> See here Figs. 11 and 12, where the collar is reduced to a concave footring. See also *LV*, 23 figs. 9, 10; 24 fig. 12; 25 figs. 14, 16; 29 fig. 25; 30 fig. 27; 31 figs. 28, 20; 32 fig. 31; 33 figs. 33, 34; 34 figs. 35, 36; 35 fig. 38; 36 fig. 42. The convex collar later becomes standard for Laconian Doric cups (Droop cups); e.g. *LV*, 40, figs. 50, 51; 41 figs. 52, 53; 42 fig. 55; 43 fig. 57.

or elsewhere<sup>33</sup>, perhaps lends support to Vickers' theory of an 'international style of silverware'<sup>34</sup>. If correct, stemmed silver cups which were so superior as to dictate the fashion for the rest of the Greek world would presumably have issued during the second quarter of the sixth century B.C. or even earlier from a highly specialized workshop of silversmiths who could have been either stationary or itinerant. However that may be, the preserved silver cups of later date, like the pair in Figs. 6 and 7, are insufficient proof that such stemmed cups were indeed manufactured in Greece.

#### APPENDIX

Analysis of 'packing' sampled from copper alloy cup, Amsterdam 13.344<sup>35</sup>

metal:	mean:	lower limit:	upper limit:
tin	83.18%	82.9489	83.4191
copper	8.31%	3.3123	13.3017
nickel	0.37%	0.1341	0.6059
lead	0.34%	0.2163	0.4667
manganese	0.24%	0.1958	0.2762
sulphur	0.23%	0.0571	0.4062
iron	0.04%	0.0000	0.0884
silver	0.00%	0.0000	0.002
chrome	0.00%	0.0000	0.002

#### Comment

A considerable proportion of copper was detected, although it may well be of a *redeposited* nature<sup>36</sup>. It is known that copper can, together with tin, form a 'hard solder'<sup>37</sup>, but this is certainly not the case here: the ratio of copper to tin is therefore probably about 70-80% copper to 20-30% tin, comparable to that of high tin bronze mirrors<sup>38</sup>. Soft solder is an alloy of lead and tin which liquifies at low temperatures, depending on the ratio of tin and lead<sup>39</sup>. Nickel and lead occur in normal 'fractions' for such analyses. The manganese and sulphur most likely originated from the soil and/or from organic matter inside (or in the vicinity of) the cup during burial. Iron, silver and chrome fall below the detection limits.

#### ABBREVIATIONS:

Cronyn	J.M. Cronyn, <i>The Elements of Archaeological Conservation</i> (London and New York 1990, reprinted 1992)
<i>Siana Cups</i> I	H.A.G. Brijder, <i>Siana Cups I and Komast Cups</i> , <i>Allard Pierson Series</i> 4 (Amsterdam 1983)

Gauer 1991	W. Gauer, <i>Die Bronzegefäße von Olympia I, Olympische Forschungen XX</i> (Berlin)
LBP 2	C.M. Stibbe, <i>Laconian Drinking Vessels and Other Open Shapes. Laconian Black-glazed Pottery 2</i> (Amsterdam 1994)
LV	C.M. Stibbe, <i>Lakonische Vasenmaler des sechsten Jahrhunderts v. Chr.</i> (Amsterdam/London 1972)
Tocra I	J. Boardman and J. Hayes, <i>Excavations at Tocra 1963-1965, The Archaic Deposits I</i> , <i>BSA Suppl.</i> 4 (London 1966).

#### ADDENDUM

After we corrected the proofs of the preceding text, the bronze foot of a cup was brought to our attention<sup>40</sup>. It is worth noting because it was found in a well with a stratigraphical context on the North Slope of the Acropolis, which indicates a date in the late sixth century B.C.<sup>41</sup> The shape (of which a helpful profile drawing has been published) finds particularly close parallels among both Laconian and Attic fictile cups from the third quarter of the sixth century B.C.<sup>42</sup> Characteristic are the convex collar or ring at the top and the slender, concave profile, in combination with a thick wall and heavy standing surface which shows a narrow, concave moulding at the base of the inner stem; in clay, this moulding returns as a black band at the inner edge of the standing surface.

<sup>33</sup> The possibility of a workshop somewhere in East Greece, for instance Samos, or in another region cannot be altogether excluded; cf. e.g. the profile drawings in E. Pierro, *Ceramica 'ionica' non figurata e coppe attiche a figure nere* (1984) 58ff., pl. XI, nos. 38-41; XII, no. 42.

<sup>34</sup> In a letter, see above.

<sup>35</sup> Carried out by Peter Hallebeek, 7 February 1995, Central Research Laboratory for Objects of Art and Science, Amsterdam. The applied technique was Energy Dispersive X-ray Fluorescence (EDX).

<sup>36</sup> Copper may corrode to soluble salts and, once dissolved (e.g. in groundwater), be deposited elsewhere; in this case on the solder.

<sup>37</sup> See Cronyn, 162.

<sup>38</sup> Cronyn, 213; R.D. McDonnell, H.J.M. Meijers, and H. Kars, 'The Composition and Microstructure of Six Fragments of Roman Mirrors from Nijmegen, the Netherlands', in *NAR* 18 (1995), *Acta of the 12th International Congress on Ancient Bronzes*, ROB, Amersfoort, 169-178; N. Meeks, 'A Technical Study of Roman Bronze Mirrors', in *ibid.*, 179-193.

<sup>39</sup> Cronyn, 162.

<sup>40</sup> For which we thank V.V. Stissi.

<sup>41</sup> O. Broneer, 'Excavations on the North Slope of the Acropolis, 1937', *Hesperia* VII (1938) 209, Well V, figs. 42-43.

<sup>42</sup> For Laconian see, for example, *LV* 36-37, figs. 42-44; for Attic, especially band-cups see, for example, *CVA Munich* 11, *Beilage* 2.2, 5.1, 6.1, 7.2, 10.6-7, 11.6; *CVA Amsterdam* 2, 91 fig. 42.

# Archaic Greek Bronze Palmettes

Conrad M. Stibbe

## INTRODUCTION

Ein Symbol für das Gestalthafte des Lebens ist die Urform des griechischen Ornamentes, die palmettengefüllte Doppelvolute, ein Urbild vollkommenen Seins....

K. Schefold, *Die Bedeutung der griechischen Kunst für das Verständnis des Evangeliums* (1983) 11.

Die freie Endigung in Form einer Palmette ist einer der glücklichsten und fruchtbarsten Findungen griechischer Kunst.

E. Kunze, *Archaische Schildbänder* (1950) 201.

Die Palmette ist das am häufigsten verwendete und darum wichtigste Ornamentmotiv der archaischen griechischen Toreuti.

W. Gauer, *Die Bronzegefäße von Olympia I. Olympische Forschungen Band XX* (1991) 154.

A few years ago an attempt was made by me to submit in this journal a more or less reliable chronology for archaic bronze hydriae, based, among other data, on a short outline of the development of the palmettes often adorning the lower handle attachment of these hydriae<sup>1</sup>. This chronology was related by me, in the case of hydriae of Laconian or Laconizing origin, to the plastic palmettes found on some blackfigured Laconian vases, which had earlier been dated on stylistic grounds, independently of these palmettes<sup>2</sup>. In this way a convenient chronological framework was established enabling me to date 10-14 round-tip leafed palmettes between 600-570, followed by an overlapping period, 570-560, in which a younger type of palmettes appeared with round tips side by side with the first pointed leaves. A final period followed from abt. 560-540/30 B.C. in which exclusively pointed-leaf palmettes, mostly with 9 leaves, with a longer central leaf, were found. In the third quarter of the 6th century a recurrence is seen to the palmettes with round-tipped leaves, but such specimens belong to groups that can no longer be called Laconian or Laconizing<sup>3</sup>.

In the following contribution an attempt will be made to extend the above framework and also to test its reliability once again.

This extension was due to the problem offered by the handle palmettes of the bronze kylix in the

Amsterdam Allard Pierson Museum which could not be readily classified in an existing group (v. the previous publication). The criteria used for the analysis and classifying into groups are as follows: 1. the type and number of leaves; 2. the type and the location of the respective volutes (if any); 3. the type of the centre (or heart) of the palmette, located between the volutes with the leaves fanning outwards from it. As a criterion for the dating is taken a relative chronology based on a stylistic development of the palmettes themselves, taking into consideration other ornaments on the vase or the object in hand, such as human or animal figures that can be dated independently of the palmettes. The extension of my earlier studies is mainly the introduction of other sources apart from the hydriae, such as other bronze vases (oinochoae and amphorae) and utensils (grips of cauldrons, crater stands and mirror handles). Nor will comparisons with palmettes made of other material be avoided (classified here under "Compare also").

The special attention given to the Laconian palmettes and their development is bound to restrict the selection. Yet specimens from other centres, such as Corinth, will be discussed. The number of bronze palmettes preserved, for instance in Olympia<sup>4</sup>, is so enormous that it would be impossible to discuss them all within the scope of this article. Moreover, this would not serve the purpose, as the history of the development within the various ranges of application of the bronze palmettes and also in the various centres of production is very dissimilar. A good example of this aspect are shield-strip palmettes which were systematically examined by Kunze. They appeared to be of a conservative nature, flourishing circa 600 B.C. but gradually falling behind in the course of the 6th century and unable to follow the developments taking place in other series in the latter part of this century<sup>5</sup>.

<sup>1</sup> C.M. Stibbe, *Archaic Bronze Hydriae*, *BaBesch* 67 (1992) 1-62.

<sup>2</sup> Stibbe 1992, 2ff.

<sup>3</sup> See Stibbe 1992, 42ff., Group K and under Group III, nos. 44-48, below.

<sup>4</sup> See the survey in Gauer 1991, 155.

<sup>5</sup> See Kunze 1950, 208. He calls the later types "traditionsgebunden, ja geradezu altväterisch". Most striking is the absence of the palmette with pointed tips, which emerges in Laconia in the period 570-560 (here Group IV) and becomes canonic after 560 (here Group V).



There is clearly an advantage to limit this study to the Laconian palmettes, for it appears that not only the Laconian vase painters had a predilection for handle palmettes on blackfigured vases, but that the Laconian bronzeworkers used the palmette so often and so specifically that in the bronze industry of that region a consistent formative development can be traced from the end of the 7th century till far into the 6th century B.C.

This does not imply that there are no longer any problems, for one of the main issues that nowadays still keeps specialists divided is the dating of a number of well-known archaic bronze vases and utensils as well as their attribution to certain production centres. The best example is the Vix crater, the dating of which varies from 575 to 525 B.C.<sup>6</sup>, while the attributions to production centres range from Southern Italy to Corinth and Laconia<sup>7</sup>. The author has made it clear already that he regards the Vix crater as Laconian and dates it abt. 570-560<sup>8</sup>. One of his arguments are the four palmettes adorning the extremities of the lid handles of the crater, which fit in perfectly with the development of the Laconian palmettes in this decade as is sketched below<sup>9</sup>. Another striking example of the disagreement among specialists is the Capua hydria handle, at present in the Israel Museum in Jerusalem (no. 5). In this instance dating will range from 625-550 B.C. and locality attribution from Taranto to Corinth and Laconia<sup>10</sup>. In some preliminary studies I have tried to elucidate this lack of clearness which, together with other such instances, are mostly the result of obsolete research that keeps being repeated without serious arguments<sup>11</sup>. Fortunately there is a high degree of consensus on a number of other issues, so that my endeavour to write a history of the Laconian bronze palmette need not be regarded as an idle undertaking.

As regards the handle palmettes of the Laconian vase painters the reader is referred to this subject discussed in the article on the bronze kylix in the Amsterdam Allard Pierson Museum (v.a. page 34).

#### GROUP I: EXPERIMENTS

Some examples of the oldest group of archaic bronze palmettes are given here, which are evidently of an experimental nature. They clearly show the difficulties the bronze workers had to overcome as regards styling and how they permitted themselves all kind of extravagancies,

No. 1. Probably the oldest bronze palmette on hand. Its styling is rather clumsy and the incised decoration looks childish. The lion protomes, adorning the upper attachment of this hydria handle are

contemporary with the more elaborate lion protomes of the Rosenbaum hydria which has been dated 630-620<sup>12</sup>.

No. 2. This compares very well with no. 1 in its combination of its uncontrolled incisions and the childlike pleasure in curly ornamentation it shows, even in the lion protome adorning the upper attachment of this oinochoe handle.

Far more developed and therefore to be dated circa 600 is palmette no 3., for which there are no parallels<sup>13</sup>. Here the influence of the palmettes of the so-called Rhodian jugs has been rightly presumed by specialists<sup>14</sup>. Their experimental nature is also proved by the other ornaments, for the lions (of good Laconian style) have not yet found their canonical place at the upper attachment, nor have the rams at the lower.

Handle no. 4, likewise with an incised palmette form, is the first one to combine this with almost canonical plastically elaborated volutes<sup>15</sup>. Its broad fan-like form, with 16 leaves, is an indication of future developments. (v. Group II)<sup>16</sup>.

The last one, no. 5, is a much-discussed hydria handle, its palmette having 11 rather flattened leaves, the tips of which are not rounded. They follow the arc of the semi-circle forming the outline of the palmette, while the sides of each leaf are carved out. Its centre, too, is a simple semi-circle. There are no volutes. This palmette is a still artless, primitive precursor to the palmettes of group II. In another publication I have argued that the handle palmette, no. 5 forms part of, should be dated in the last quarter of the 7th century, also because of the type of the grip, the lions and the woman and horse protomes.

<sup>6</sup> Champion of the early dating and attribution to Corinth: M. Gjedesen, *Greek Bronzes: A Review Article*. *AJA* 67 (1963) 333-351.

<sup>7</sup> For a south-Italian origin pleads Rolley i.a. 1982, 66-71.

<sup>8</sup> Most recently: C.M. Stibbe, *Noch einmal die "Dame de Vix"*, *Boreas* 19 (1996) 115-123.

<sup>9</sup> See Group IV B, no. 60. below.

<sup>10</sup> See Stibbe 1996, 359-362 with notes 20 and 22; also Group I no. 5, below.

<sup>11</sup> Stibbe 1992; id. 1994a, 1994b; id. 1996 and note 8 above.

<sup>12</sup> Stibbe 1994b, 86-93.

<sup>13</sup> Note, however, that in the second half of the sixth century the example of the Laconian incised palmettes, of this and of the other types mentioned, is picked up again and followed by the Corinthian bronze workers; see here Group VII, nos. 99-103.

<sup>14</sup> Rolley 1982, 26.

<sup>15</sup> A certain relationship with the palmettes on shield strips suggests itself: compare the heavy volutes and the repetition of the palmette, with Kunze 1950, 207 pl. 75 no. 1/2 and 80, 81. These are, however, clearly of a later date because of the type of the leaves.

<sup>16</sup> The dating by Gauer 1991, 260 (no. Hy 23): abt. 550, has been refuted by me before already (Stibbe 1996, 8 n. 29).

By way of a summary it can be stated that this experimental group has in common a predelection for incision together with a heterogenic character. A Laconian origin is plausible in view of the lion heads of nos. 1, 2, 3 and 5. An early use of palmettes, viz. as ornaments, in Laconia is demonstrated by a series of high-quality palmettes worked in lead, being an easier material. These are found on pendants dating from the so-called Lead I and II periods. (v. catalogue under “Compare also”)<sup>17</sup>.

#### GROUP II: CONVEX CARVED LEAVES WITH ROUND TIPS

##### *Subgroup II A: Underdeveloped or no volutes*

In this subgroup volutes are either non-existent, as in no. 5, or underdeveloped. The very interesting fragment no. 6 has a plain centre, the same as No. 5. A singularity is here the somewhat tapering outline, which is unusual in group II but need not have any chronological indication<sup>18</sup>. In no. 7 the volutes are missing too. The centre of this 15-leafed palmette, set out with its two plastic rings, is a little more finished than in nos. 5 and 6. The uncanonical location, as well as the type of the small lions and especially the lion protome of this oinochoe handle make it clear that this is a Laconian product, dating from the final quarter of the 7th century<sup>19</sup>. In No. 8 there is an attempt at adding volutes, tentative but rather comical, for within the ring round the centre. More normal, but by no means canonical is the location of the reversed volutes in nos. 9 and 10.

The still evident experimental character of the whole subgroup makes a dating towards the end of the 7th century B.C. advisable.

##### *Subgroup IIB: with fully developed volutes*

In this subgroup the volutes are for the first time fully developed and even nicely finished with a clearly defined borderline. No. 11 is the only one with a couple of plain volutes on either side of the hoplite's feet, where they serve as the coiled extremities of the basis on which the horses stand. This function can be compared with the volutes of no. 12, but here they are nicely bordered<sup>20</sup>. This no. 12 is further distinguished by the fact that for the first time the leaves are distinctly following the curve of the volutes by a slight bend. This indicates a later date of creation than the volutes nos. 1-11. Based also on other grounds no. 12 is dated abt. 595-585<sup>21</sup>. The nos. 13-15 are connected types of the period 590-570<sup>22</sup>.

##### *Subgroup IIC: convex, widely separated volutes*

This subgroup is distinguished by broad borderless volutes that are widely separated. No. 16 has a

centre in loop form, as an exception. The volutes end here in a kind of horn, an initiative that later on will grow into a snake motif (v. nos. 34, 35 and subgroup VC). The chaplets of nos. 17 and 18 have rather short leaves, which is more than once found in oinochoe handles (v. no. 10), but is an exception in hydria handles (v. no. 15). But oinochoe handles in their turn sometimes have palmettes with long leaves (v. no. 7). No. 18 has been dated circa 600, based on an exact parallel from a grave at Capua with an Early Corinthian context<sup>23</sup>. No. 17, with a kouros handle, must have been made circa 575-565 (v. Stibbe 1994a, 110), while no. 16 is dated circa 570 by Gauer.

##### *Subgroup IID: Variants*

This is an odd group of palmettes that cannot be classified under the subgroups A/C. Their characteristic is the rather spherical form of the palmette, which looks like having been hammered rather than moulded. It is a heterogeneous group that is not perforce Laconian.

No. 19 shows a great resemblance with no. 16, due to the “horns” and to the space between the volutes, but the leaves are far less flattened and rather convex. The nos. 20 a-b and 21 have a similar leaf form. Gauer dates these fragments “früharchaisch” (i.e. latter half of the 7th century till the beginning of the 6th century) and calls this palmette form “Zyprisch” (Gauer 1991, 85). The careless workmanship as well as the small rounded type (with shrivelled volutes) of nos. 20 a-b and 21 make one think of the handle palmettes of the Amsterdam kylix (p. 23 fig. 4b, 4c)<sup>24</sup>. Nos 22 and 23 are of the same type, while No. 24 is still another variant rightly dated by Gauer circa 580 (Gauer 1991, 270, No. E 26).

<sup>17</sup> In AO 255, 265 the palmettes are called “Ionic capitals” and collected under the heading “Jewellery Types”.

It is not the place here to dwell on the origin of these palmettes and the way in which they came to Greece from the near East. See on the subject most recently Gauer 1991, 156ff.

<sup>18</sup> See H. Jucker, in *Zur Griechischen Kunst*, Festschrift H. Bloesch, *AntK* neuntes Beiheft (1973) 55f. Gauer 1991, 102, 158.

<sup>19</sup> For the dating see Stibbe 1996, 365 n. 37.

<sup>20</sup> The palmettes of the horizontal handles of this hydria are, however, still of the same type as of nos. 5 and 6.

<sup>21</sup> See Stibbe 1992, 25 n. 111.

<sup>22</sup> The tripod from Metapontum no. 13 has been dated just past the middle of the sixth century and attributed to Taras by U. Jantzen, *Jahrbuch DAI, Ergänzungsheft* 13 (1937) 32ff. This erroneous idea has been repeated ever since. Cf. Stibbe 1996, 6 365 n. 36.

<sup>23</sup> Johannowsky 1980, 447 (tomb 1505). See also Stibbe 1996, 365 n. 36.

<sup>24</sup> See p. 21-35 above.

### *Subgroup IIE: Diversities*

This subgroup contains the last diversities of Group II. Here, for the first time, we find a symmetrical arrangement of the leaves on either side of the central leaf: no. 25 has  $2 \times 5$  leaves on either side while no. 26 has  $2 \times 6$  leaves in this position. For various reasons no. 25 has been dated before already in decade 575-565 (v. Stibbe 1992, 29 f.)<sup>25</sup>. The upper ends of the volutes have grown into snakes. The raised centres of the volutes are also remarkable. The latter detail, as an even more refined centre, i.e. raised stepwise, is found in no. 26, where the palmette centre is reduced to a droplet on the tangent point of the volutes<sup>26</sup>. Because of the early type of their "snake palmettes" a well-preserved clay oinochoe in Rome and a handle fragment of a clay oinochoe in Sparta lend themselves for comparison (here nos. II Ea and II Eb).

### GROUP III: FLAT CARVED LEAVES WITH ROUND TIPS

This is one of the most successful groups. Its development can be followed from a precursor at the end of the 7th century (no. 5) till the middle of the 5th century (nos. 44-48).

### *Subgroup IIIA: uncanonical in number and composition*

This subgroup contains those palmettes that have not yet a strict composition with a central leaf flanked by four leaves each. This oldest group is linked up with no. 5 of the "Experiments" (Group I). In no. 27 the shape of the palmette centre is similar to that of nos. 17 and 18. The edgeless volutes end in "horns", as is also the case in no. 16, which can be dated circa 600-590, also on account of the shape and the other ornaments of the hydria to which it belongs. No. 28 is a comparable case although its leaves are shorter and their number reduced to seven; its centre tapering a little down towards the leaf attachments. Its dating of circa 570-560 may therefore be assumed<sup>27</sup>. Nos. 29 and 30 are dated in the same period by Gauer<sup>28</sup>. The next three specimens are distinguished by their volutes doubling themselves upwards. No. 31 is a local product from Crete, whereas no. 32 is a little masterpiece from Olympia<sup>29</sup> and no. 33 the youngest of the series. Nos. 32 and 33 are probably Laconian. The dating of No. 33 can be circa 550 and it may be regarded as a forerunner of subgroup IIIB<sup>30</sup>.

### *Subgroup IIIB: flat carved leaves with round tips; volutes of all kind*

The palmettes of this subgroup can for the greater part be dated in the latter half of the 6th century.

They represent a wide diversity in which several production centres take part, Laconia not excluded. The hydriae of this subgroup have already been discussed by me (Stibbe 1992 42ff. Group K).

In no. 34 the leaves are still more or less within a semi-circle while the central leaf (of nine) does not noticeably stick out. This palmette is dated circa 570-560<sup>31</sup>. Its volutes end in snake heads, just as in no. 25. This is a detail which arises in the Laconian workshops at the beginning of the second quarter of the 6th century and is immediately imitated on Laconian clay oinochoae.

A blackfigured oinochoe of the Hunt Painter, circa 565-555, adorned with such a snake palmette confirms this dating<sup>32</sup>. No. 35 has a somewhat more pronounced central leaf than no. 34, nor is its centre plastically set off from the leaves, which gives them a more elongated aspect. This no. 35 must be contemporary with no. 34 or somewhat later<sup>33</sup>. No. 36 takes us to the middle of the 6th century<sup>34</sup>. A remarkable feature of this specimen is the combination of a progressive palmette (a longer central leaf between four shorter ones on each side) with a conservative one on the upper part of the grip (seven leaf tops within a semi-circle). No. 37 also has a 7-leafed palmette on the upper part of the grip, where it shows an innovation also on this part because it has a long central leaf. As I have argued elsewhere, no. 37 may be earlier than most of the other handles of the same type, i.e. from decade 560-550<sup>35</sup>.

Not far different from the preceding specimens is no. 38, because its volutes repeat those of no. 36<sup>36</sup>. This palmette dates from the third quarter of the 6th

<sup>25</sup> For the lion see Stibbe 1994a, 113 n. 36. Recently another bronze hydria with a lion-shaped handle (but with a gorgoneion as decoration of the lower handle attachment) turned up in a tomb at ancient Pydna: J. Vokotopoulou, *Guide for the archaeological Museum of Thessaloniki* (1996) 231. This lion is, however, a quarter of a century older than the one from Paestum.

<sup>26</sup> This is one type of palmette from the Laconian repertory, which in the latter half of the sixth century was imitated by the Corinthian bronze smith (see Group VII, nos. 95, 98 below).  
<sup>27</sup> See Stibbe 1992, 52 n. 211.

<sup>28</sup> Gauer 1991, 159. He attributes nos. 29 and 30 to the "Werkstatt der Hydria von Oxford" (see here no. 27).

<sup>29</sup> Recently treated in Stibbe 1994b, 99, where a dating between nos. 27 and 33, i.e. abt. 575, is proposed. Gauer 1991, 159 has a dating abt. 540, based on an erroneous comparison with the Pomerance oinochoe (here no. 94; also see Stibbe 1994b, 99 n. 52), which has but seven leaves with an elongated central one.  
<sup>30</sup> See Stibbe 1992, 42f.

<sup>31</sup> In the so-called overlapping period: Stibbe 1992, 2; see also *ibid.* p. 48; *ibid.* note 202 some parallels on bronze oinochoae are mentioned here and the late dating by Gauer 1991, 160 is rejected.

<sup>32</sup> Stibbe 1994a, 116, 118 and Group VC below. (Compare also no. VCb).

<sup>33</sup> Stibbe 1992, 52, 61 no. Nn2.

<sup>34</sup> Stibbe 1992, 43.

<sup>35</sup> Stibbe 1992, 39 and 41.

century and it has many parallels<sup>37</sup>. This type finds a chronological settlement and attribution to Laconia in nos. 40-43<sup>38</sup>. The mirror support no. 40, in the shape of a nude girl, can be dated circa 550 for stylistic reasons<sup>39</sup>. The central leaf of the palmette is broader than the rest, but still forms a semi-circle. One step further is the palmette of mirror support no. 41, with the central leaf markedly longer than the others, so this will be dated 540-530<sup>40</sup>. These two mirrors are generally accepted as being Laconian. The same dating period in the third quarter of the 6th century holds good for the splendid sphinx in Munich, which is genuine Laconian<sup>41</sup>. The magnificent head-dress here is a big palmette emerging from enormous volutes with a central leaf as strongly pronounced as in no. 41.

A very interesting specimen is no. 43 from the Menelaion near Sparta. This handle is well comparable with no. 36 on account of the allied shape of the volutes. Its palmette is, however, clearly of a later date with its pointed, almost triangular, outline due to the strongly developed central leaf. This form will take us to the end of the third quarter of the 6th century. The next development, covering the period until the middle of the 5th century, can be seen in the series nos. 44 to 48 inclusive. This shows the central leaf growing bigger and bigger, the outline lengthening and the centre of the palmette smaller. But this development has mainly taken place in northern Peloponnesus, so no longer in Sparta or Laconia.

#### GROUP IV: TRANSITIONAL TYPES

##### *Introduction*

This group should be considered as transitional between the early groups of palmettes with round-tipped leaves and the later ones with leaves that are sharply pointed. The number of leaves is important too, whether it is over or under the canonic standard of nine (here Group V). The palmettes in group IV have in general ten or more, as yet not nicely arranged, leaves around a central longer one. Even in those cases when the outline is no longer a semi-circle, as in Group II. A few exceptions will show fewer than nine leaves.

##### *Subgroup IVA: slender convex leaves with slightly rounded tips*

This subgroup consists of the palmettes on the lower handle attachments of three hydriae (nos. 49-51), three oinochoae (nos. 52-54)<sup>42</sup> and one amphora (no. 55). The difference with the earlier groups is the leaf shape: more slender with tips still slightly

rounded, so not properly pointed. Nor are these leaves ribbed as is the case in the contemporary Subgroups IVB and IVC and the later Group V. Their usual number is ten or eleven, inside in most examples (e.g. nos. 49-53) a more or less rounded circular outline, although a few of them (nos. 54-55) show a more elongated one<sup>43</sup>. Dating between 570-560 is suggested by the plastic decorations on these bronze vessels and in particular by a terra-cotta palmette on a blackfigured Laconian hydria by the Naucratis Painter<sup>44</sup>.

No. 49, by the shape of its leaves still connected with Group II, can be considered as a link between this group and our Subgroup IVA, because its leaves show a tendency to become more slender as well as more compressed, which is the rule in Subgroup IVA. The outline here, still forms a semi-circle<sup>45</sup>. Even no. 50, though probably not Laconian<sup>46</sup>, is connected with it, for it has the same outline, the same number of leaves (11) and very fine volutes together with an old-fashioned type of rams with plain coats.

<sup>36</sup> Gauer 1991, 108 calls the volutes of no. 38 (his no. Hy 43) "Hörnervoluten" and locates the palmette between our nos. 36 and 47. Along this line he reaches a dating in the last quarter of the sixth century. Furthermore he calls no. 38 "Korinthisch" (p. 262). No. 38 is, however, clearly representative of the stage of development in the third quarter of the sixth century, whereas no. 47 belongs to the last quarter, as will be shown below.

<sup>37</sup> See also our no. 94.

<sup>38</sup> No. 39 must be a local product from Olympia, which again has been dated rather late (530-520) by Gauer 1991, 200 no. Le 191.

<sup>39</sup> Herfort-Koch 1986, 35 dates here 530-520, basing herself on a not very convincing comparison with a kouros in New York (her no. K84, fig. 4), but this one shows the more developed rendering of the flesh above the hips, which feature started only in the latter half of the sixth century. Our mirror support, however, still has the uninterrupted outline from the chest to the thigh, typical of the first half of the century. See also Stibbe 1994a, 110.

<sup>40</sup> Herfort-Koch 1986, 34f., 37f., 99.

<sup>41</sup> Most often considered to be Tarentine; see Herfort-Koch 63 n. 219.

<sup>42</sup> There is another fragmentary and still unpublished bronze oinochoe from a tomb at Rutigliano, which has an elongated palmette with ten leaves, like our subgroup IVA, combined with rams of an early type and, at the upper attachment, lions couchant resembling those of our no. 52, and also a lion protome, which looks close to the one of our no. 52.

<sup>43</sup> Like the palmette of the silver oinochoe in Usak (from the "Croesus treasury", here: "Compare also" no. IVAa) with only seven leaves arranged around a longer central one. The leaves have round tips. The piece should be dated 560-550 on account of the style of the naked youth, the lions and the rams.

<sup>44</sup> See Stibbe 1992, 3 no. 4, fig. 5. The type of the palmette is called "pointed" there, but, since the leaves are not ribbed and the shape of the tips not clearly pointed, I now prefer to consider the type as belonging to our subgroup IVA, which makes no difference in the dating.

<sup>45</sup> For a short analysis of the hydria see Stibbe 1992, 15f. no. E1 and 54 (description and bibliography). There it is dated abt. 575 (p. 16), a date I prefer modifying now to abt. 570.



Less circular in outline but clearly belonging to our subgroup by its number of leaves (11) is a hydria palmette from Cumae in Naples no. 51<sup>47</sup>. An interesting detail are the hornlike upper ends of the volutes, which can be taken to be pre-figurations of the snake motif (cf. no. 19) that soon was to become the normal solution for the problem how to shape those ends<sup>48</sup>. Actually all three oinochoae, catalogued here under nos. 52-54, have these snakes curling up on the shoulder of these vases. The palmettes of nos. 52 and 53, each with ten leaves, resemble very much those of no. 49, whereas no. 54 has a palmette with a more elongated outline, which detail is also found on no. 55, an amphora of an unusual shape but which can be dated earlier than 555 B.C. for other reasons<sup>50</sup>.

*Subgroup IVB: pointed leaves, pre-canonical in number and shape*

Before the Laconian bronze palmette will reach its mature, canonical stage, i.e. nine symmetrically arranged pointed leaves (v. our Group V) it is evident that the bronze workers are hesitating which way to go: trying out palmettes with more or fewer than nine leaves, even after having made them already pointed or ribbed, while sticking to the convex type of volutes (so contrary to those in our Group V). For these reasons our Subgroup IVB must be contemporary with our Subgroup IVA.

A most remarkable transitional piece is the incised bronze mirror handle no. 56, fig., found in a clearly Laconian environment. On its flat grip a Laconian lady is shown in a long robe with the characteristic folds at the back<sup>51</sup>, the whole figure of a type that reminds one of the Laconian lady on the lid of the Vix crater<sup>52</sup>. On the mirror handle she is placed between two ornaments with motifs dating from an early period. Over her head hatched triangles, well-known from the vertical hydriae handles of the Telestas series<sup>53</sup> with under her feet a round-tipped palmette as found in the same period, i.e. the first quarter of the 6th century B.C.<sup>54</sup>. Lower down, however, is another palmette, this time pointing to the future, for there are nine bluntly-pointed leaves with two rudimentary ones next to the volutes, this time arranged symmetrically. Although the volutes are still old-fashioned, having a space in between, the palmette centre is already pointed like some examples in our Group V (nos. 73-77). So this mirror handle may be regarded as typical for the transitional period, i.e. for decade 570-560 B.C.

This dating is confirmed by no. 57, having the same type of palmette and combining conservative and progressive features in the same way<sup>55</sup>. No. 58 again has a ten-leafed palmette well within a semi-circular

outline, together with a handle shaped like a kouros. This boy with his slender body, still without any muscular details, is representative of a type common in Laconia in the second quarter of the 6th century. Other examples of such kouroi are nos. 59 and 61 and all can be dated within the transitional period 570-555, when there is a slow development towards palmettes with pointed leaves that are also ribbed. The ribs of nos. 57-59 are less well-defined than those of nos. 60ff. Four very fine examples are at the ends of the lid handles of the Vix crater (our no. 60), all four with ten clearly pointed and ribbed leaves, three of them within a semi-circular outline and the last one tending towards a more pointed shape, thus pointing to a future development<sup>56</sup>.

No. 61, with only eight pointed and ribbed leaves, is the oldest one we know having concave volutes in combination with a convex centre<sup>57</sup>. It is part of an oinochoe that has extensively been analysed by the present author and dated between 565-555 B.C.<sup>58</sup>. The same number of leaves within a semi-circular outline is found in no. 62, a much less ambitious piece from Olympia, with snakes curling upwards from the volutes.

No. 64 belongs to a most unusual hydria and is in itself an anomaly, its number of leaves being reduced to seven, but their type and the volutes fitting in with this subgroup IVB. An analysis of this vessel proved it to be the earliest one of the set of hydriae from the heroon on the agora of Paestum<sup>59</sup>.

<sup>46</sup> See Stibbe 1992, 16 no. E3; id. 1994b, 97 n. 44 and fig. 19.

<sup>47</sup> In Stibbe 1992, 7f. no. B2, a date "probably from the end of the first quarter of the sixth century or slightly later" is suggested also for other reasons than the type of the palmette alone. Now I would like to modify this opinion to a date circa 570.

<sup>48</sup> Another example: Gauer 1991, no. HY 17, pl. 88, 1; Stibbe 1992, 8 no. B3.

<sup>49</sup> The photograph in Filow 1925, fig. 64, is misleading: the leaves are not ribbed but convex, as Filow clearly states on p. 61.

<sup>50</sup> Stibbe 1992, 52.

<sup>51</sup> See C.M. Stibbe, *Das andere Sparta* (1996) 151f. with fig. 78, where the two ladies are compared already and considered as contemporaries. See also the publication mentioned in note 8.

<sup>52</sup> M.W. Stoop, A Laconian Lady? *BABesch* 39 (1964) 83-91.

<sup>53</sup> See e.g. Stibbe 1992, 12 fig. 16; id. 1994b, 90 fig. 6.

<sup>54</sup> For the Telestas series and its dating see Stibbe 1992, 11-13.

<sup>55</sup> Weber 1983, 274 dates "Letztes Viertel des 6. Jhs. v. Chr. (früh)", which of course cannot be accepted. See note 66 below.

<sup>56</sup> It should be stressed that here we have another argument for the early dating of the Vix crater, as proposed by me several times already (see note 8 above).

<sup>57</sup> The oldest example of shallow concave volutes and palmettes in stone from Laconia comes from the Amyklaion (Here fig. 21), which was recently updated with sound reasons by Amalia Faustofferri (Faustofferri 1996, 340ff., pls. 1-2), see also our no. 70.

<sup>58</sup> *AntK* 37 (1994) 108ff., 120.

<sup>59</sup> Rolley 1982, 25, 53, no. 6, fig. 63. Stibbe 1992, 9f. no. B6.



Its manufacturing date should be at the end of the transitional period, so circa 555 B.C.<sup>60</sup> A similar type of palmette (seven leaves, pointed and ribbed) comes from a marble lotus-palmette frieze from the Amyklaion near Sparta ("Compare also" no. IVBa, fig. 16)<sup>61</sup>. In both cases there is already an elongated central leaf, but the palmette outline remains wide and round while the number of the leaves is still uncanonical. The same can be said about of a palmette from a show handle of a hydria in New York, no. 65, which is most probably an Etruscan imitation of a Laconian prototype, now lost, but belonging to this subgroup with a somewhat later dating for the imitation<sup>62</sup>. The same holds good for other imitations like our Compare also no. IVBe from Olympia, which is called Corinthian by Gauer<sup>63</sup>. That handles with such palmettes were actually made also in Laconia, is suggested by an example from Phoiniki, compare also no. IVBd.

A most interesting Berlin oinochoe, no. 66, has been neglected a little in modern scholarship, for apart from the palmette which belongs to our subgroup because of its uncanonical number (eleven) of bluntly pointed, slightly ribbed leaves with their already symmetrical arrangement, the most impressing lion protome at the upper attachment of the handle deserves our attention. It clearly shows the hand of the master bronzeworker who was also responsible for the lion heads of the nos. 25 and 64, the Paestum hydriae, while the one of no. 52 might belong to his workshop. As Rolley 1982, 49-50, earlier observed, the style of the Paestum hydriae is related to the lions of the Vix crater and should be attributed to the same hand. So no. 66 can now be added to that most prolific party. The palmette of its handle gives us a very welcome dating confirmation (before 555) of the entire group of the cited works of this anonymous master<sup>64</sup>.

We close this chapter with an Olympia hydria handle palmette, no. 67, which like no. 57 on account of its female protome can be regarded as transitional between the early series of the Telestas group and the canonical series of our Group V. It has an even closer link with the Telestas group than no. 57 because of its being fitted with half-reels. However, the volutes are still convex (not flat as with group VB) and the eleven pointed leaves are arranged around a slightly longer central one.

#### GROUP V: THE MATURE OR CANONIC STYLE

*Subgroup VA: Early types in combination with a grip in the shape of a youth.*

Of the small oinochoe no. 68 only the kouros handlegrip, the trefoil mouth and a fragment of the neck

with shoulder are preserved<sup>65</sup>. It is so well worked in every detail that it may be called a masterpiece. The style of the youth's body with its slender, rather stiff outlines (no flesh on the hips!) ranks it close to nos. 58, 59 and 61. The shape of the pubic hair, however, the thin necks of the rams with their lengthy muzzles, the convex mane of the lions, all point to a later stage, following immediately upon the transitional period, so abt. 555-550. The palmette confirms this dating by its canonical number of nine pointed leaves symmetrically arranged around a central one, but its outline still rather broad and circular if compared with later pieces of our subgroup<sup>66</sup>.

A second oinochoe handle with a kouros-shaped grip, in the British Museum, here no. 69, is also like no. 68 a combination of older and newer features<sup>67</sup>. We cannot go into detail here, but it should be stressed that this handle has many characteristics in common with the kouros handle of an oinochoe in the Borowski collection in Jerusalem, here no. 59. No. 69 must be a later work by the same master who very probably had his workshop in Lakonia<sup>68</sup>. Its palmette (in contrast to no. 59) has the canonical nine pointed leaves with a longer central one but a more elongated outline than no. 68 and therefore suggests a later production date: circa 550 B.C.

<sup>60</sup> Stibbe 1992, 10.

<sup>61</sup> Faustoferri 1996, passim, arrives at a date circa the middle of the sixth century B.C. for the Amyklaion.

<sup>62</sup> Circa 540, as Jucker suggests; see Stibbe 1992, 32 no. G18 with fig. 43.

<sup>63</sup> Gauer 1991, 200, no. Le 192. His dating "spätarchaisch I" (i.e. last third of the sixth century) is perhaps too late.

<sup>64</sup> As I suggested elsewhere (see note 8 above) Gitiadas of Sparta would be a most suitable candidate. Via the female heads of the hydriae from Paestum and Sala Consilina and the lady on the lid of the Vix crater, as shown by Rolley 1982, fig. 133, there is an obvious link of our group with these hydriae and this crater too. Thus it is possible to distinguish two chronological stages in the work of one and the same master.

<sup>65</sup> The handle was dismantled and stripped: the modern part of the vase was removed June 1955. Dm. of the mouth 9.0 × 7.5 cms., dm. of the neck 5.0 cms., maximum dm. estimated at 10.0 cms. H. of the handle 11.0 cms. width 7.5 cms. (lions) and 6.2 cms. (rams). Brownish patina.

<sup>66</sup> The dating by Weber 1983, 273 "letztes Viertel (früh)" should be rejected, the same as was done with our nos. 58, 59, 61.

<sup>67</sup> Note that the boy's muscles are not pronounced; the rams have thick short necks, the lions no convex neck mane. Apart from these old-fashioned features there are a few more recent ones: the small sunken eyes of the lions and the type of the palmette.

<sup>68</sup> Note e.g. the following features they have in common: the lions have the same pointed ears and the same type of mane; the type of the braids falling on the boy's chest is the same (one braid with no. 59, two with no. 68 on either side of the face); In both cases the groins of the youths are deeply carved so that a ribbed shape is given to the thighs; also in both cases the feet rest on a base into which the volutes end up (they usually end under the rams); the rams are of equal shape too.

Another rather early type in the series is no. 70. The palmette, again in combination with a human figure – this time a nude girl – as a mirror handle, is on the back of the mirror, over the girl's head<sup>69</sup>. Here the body is a little more developed, the muscles more visible and the hips accentuated if compared with nos. 67, 68 and the mirror handle no. 40, which was dated 550<sup>70</sup>. The palmette has already the canonical nine leaves and a slightly pointed centre, but the outline is less elongated than in no. 69 and the type of the leaves, though pointed, reminds one of our pre-canonical subgroup IVA (e.g. nos. 52 and 53). So the conclusion must be that this palmette, primarily because of the style of the girl's body, will be dated shortly after 550.

The next palmette, no. 71, is in combination with a kouros of a similar body type as the girl of no. 70. It has for several reasons been considered as contemporary with the hydriae of the Paestum-Sala Consilina series (here subgroup VB), dated 555-545<sup>71</sup>. Here we have the second instance, after our no. 61, of concave volutes (for which v. Group VI)<sup>72</sup>. We inserted this no. 71 here because of the resemblance in body style with no. 70 and also because of the palmette which leans close to subgroup VB.

*Subgroup VB: mature palmette types in combination with flat volutes and normally with a female protome*

No. 73 is our earliest example of a palmette in combination with flat volutes around a knob-like raised centre. It has been dated in the second quarter of the 6th century B.C. in view of the body shape of the vase (Stibbe 1992, 8-9). A more precise dating – at the beginning of our subgroup VB, so slightly before 555 – can be obtained by considering the older and the younger features of its decoration: the snakes, the half reels, the horse protomes on one side and the canonical palmettes with their almost pointed centres on the other. A little more advanced is a New York hydria to which no. 74 belongs. This is the first example of the combination of a canonical palmette and a female protome. Yet the old-fashioned half reels are still present, while the palmette centre is pointed, as in nos. 73-77. Therefore, and for other reasons too, its date has been established shortly before the Paestum-Sala Consilia series, i.e. almost contemporary with no. 73<sup>73</sup>. No. 75, from Eritrea, is important because it opens the series of fully developed hydriae handles decorated with a female bust and a pair of rams together with a palmette of our type, although its outline still remains round, as in no. 73. Even more important is its findplace, because it shows that

these hydriae were most probably manufactured on the Greek mainland and exported from there to southern Italy, Paestum and Sala Consilina included. The angular centre of the palmette is counterbalanced by the round centres of the palmettes of its horizontal handles<sup>74</sup>. The Greek mainland origin of the series is corroborated by no. 76, from Olympia, considered Laconian by Gauer<sup>75</sup>. This palmette has an elongated central leaf, like all those of the Paestum-Sala Consilina series, here nos. 77-80, with the only difference being the angular shape of the centre, which is round in nos. 77-81. Perhaps it is by mere chance, but the Paestum-Sala Consilina series seem to us to be the acme of the development not only as to the handle palmettes as such, but also as regards the extraordinary quality and state of conservation of the complete vessels.

With no. 82, allegedly found in Greece and even in Sparta, we are coming to the end of this subgroup which has, in the same way as the beginning of it, some differences in details: a palmette of our type but with only eight leaves, rams as usual, but no female protome and a handle shape that became en vogue only at the end of the third quarter of the 6th century B.C.<sup>76</sup>. Therefore palmette no. 82 must be dated circa 530-525.

*Subgroup VC: snake palmettes*

Palmettes whose volutes curl upwards on the shoulder of the vase give the impression of snakes and actually very often end in snake heads. As a rule this kind of palmette, which may be called snake palmette<sup>77</sup>,

<sup>69</sup> On the front of the mirror, equally over the girl's head, there is another small palmette, concave this time with widely expanded volutes, and round-tipped leaves, adding therefore to the transitional character of the piece.

<sup>70</sup> The type of the lion on which the girl stands is also important: the eyes are small, the muzzle long, the ears almost heart-shaped and put in front of the mane, the radial incision of the mane around the face is rather widely spaced. Therefore it must belong to the third generation as defined in Stibbe 1994a, 112.

<sup>71</sup> Stibbe 1992, 35.

<sup>72</sup> The pubic hair has a straight upper borderline, a detail usually considered as being the oldest shape, but here it is already detached from the groins. Anyway one is warned once more against the trustworthiness of this detail as a means of dating. See also note 63 of the article cited in note 8.

<sup>73</sup> Stibbe 1992, 15.

<sup>74</sup> The palmette on the vertical handle, which in the publications by Politis, pl. 1 and Rolley 1992, fig. 145 was reproduced only partially, is in fact completely preserved and restored since then.

<sup>75</sup> Gauer 259 no. Hy 14. A third example would be our no. 81 in Heidelberg, allegedly found in Greece.

<sup>76</sup> See Stibbe 1992, 38ff. Group I (especially fig. 54) and 42ff. Group K (especially figs. 56, 57; Group B above, especially nos. 38ff.).

<sup>77</sup> Stibbe 1994a, 117 n. 66.

is *not* found on hydriae of normal shape<sup>78</sup>. It is much in evidence, however, on an unusual type of bronze hydriae, here nos. 83-85, whose bodyshape is kindred to and perhaps imitated from a class of equally unusual amphorae, here nos. 35, 55, 86, 87. It often occurs also on the lower handle attachment of bronze oinochoae, here e.g. no. 87<sup>79</sup> and on many others in clay<sup>80</sup>. A clue for the chronology is offered by a black-figured oinochoe of the Laconian Hunt Painter, dated 565-555<sup>81</sup>, which has a palmette of the same type. The bronze oinochoae with snake handles can be dealt with accordingly<sup>82</sup>.

No. 83, from Trebenischte (Illyria) and no. 84 from its neighbourhood are very similar: the central leaf is not well defined and still within the semi-circle line, so they must belong to the earliest stage of our canonic type, i.e. the period circa 555 B.C. The same holds good for no. 85, whose leaves are shorter but more sharply ridged. It is part of a well preserved hydria from Paestum, which by the features of its shape alone can be dated in the decade 560-550<sup>83</sup>. Palmettes nos. 86 and 87, also from Trebenischte and Paestum, are of a type connected with the twisted handles of amphorae, but otherwise very similar in shape to the hydriae mentioned. With their elongated central leaves these palmettes are representative of the ripe stage of our group V, just like the Paestum-Sala Consilina series (nos. 77-80). The same can be said of no. 88, an oinochoe palmette, which even in its poor quality stands for more examples of the same type, as we remarked before<sup>84</sup>.

A piece that is exceptional not for its leaves, although they are just of the best quality in this subgroup, but for its volutes and handle is no. 89. The amphora it belongs to is of a superb quality and exhibits quite a lot of unusual features. One of these, the concave volutes of the palmette, forms a link with our nos. 61, 71 and Group VI. There is, however, no reason to date this amphora later than the other vessels of our group, so it must have been produced in decade 550-540 at the latest.

A confirmation of the dating of no. 89 and of the other palmettes of our subgroup comes from Olympia, where a palmette of our type, with concave volutes like those of no. 89, was found in a context dating from before the third quarter of the 6th century (v. "Compare also" VCa)<sup>85</sup>.

#### GROUP VI: CONCAVE PALMETTES AND VOLUTES

A small group of palmettes of exceptional quality is here presented for the first time: nos. 90-92. The features they have in common are: seven rather broad round-tipped leaves and double volutes with

raised knob-like centres. Two of them, nos. 91 and 92 are equipped with additional axillary ornaments. All three are so close in style that they must be the work of one and the same bronzesmith, whose workshop can be located somewhere in Laconia because of the findplace of no. 90<sup>86</sup>. The other ornaments of the almost completely preserved nos. 91 and 92 do not contradict this assumption<sup>87</sup>. As for the dating we depend in the first place on an evaluation of the style of the kouros handles of nos. 91 and 92. They represent a rather developed stage in the rendering of the muscles<sup>88</sup>, as found only in the third quarter of the 6th century, a dating confirmed by other ornaments, like e.g. the striking floral design on the foot of no. 91<sup>89</sup>.

As we have seen before (v. nos. 61, 71, 89 and Compare also VBa) the idea of making volutes concave instead of convex or flat was not new. Our first instance, no. 61, dates back to the years 570-560. But the novelty now was to extend it to the palmette itself. Also the more elaborate composition with extra motifs like the small axillary palmettes of no. 92 can be considered as an innovation, which has spread elsewhere about the same time, as seen in the Trikala bronze hydria (no. 93) and in vase painting<sup>90</sup>.

<sup>78</sup> One exception: the Paestum hydria with the lion-shaped grip, here no. 25. Comparable are the double volutes of Group III, nos. 36, 38, 43, 45, 46. See also no. 94. The type of the snake palmette is found once also on the horizontal handles of a clay hydria decorated by the Naucratis Painter, dated 570-560: Stibbe 1992, 3, fig. 5, here IVaF.

<sup>79</sup> See nos. 52, 53, 54, 62, 63 above, and the list drawn up by M. Sguaitamatti and H.W. Niesen in *AntK* 25 (1982) 84. Also Weber 1983, 66f., with pl. II, IV.

<sup>80</sup> See Stibbe 1994a, 116f. with n. 65. Compare here nos. IVAb-IVAd.

<sup>81</sup> Stibbe 1994a, 118. Here no. IVaE.

<sup>82</sup> Another clue to chronology is offered by the grave-context of an oinochoe from Matera: Weber 1983, 222 no. I.A.18 and by our no. VCa (see below).

<sup>83</sup> Stibbe 1992, 49, no. N5.

<sup>84</sup> See note 79 above. In the catalogue of Weber 1983 the following bronze oinochoae of Greek origin have the canonical nine-leaf palmette: nos. I.A.14 (i.e. our no. 88), I.A. 19, I.A. 23, I.A. 25 and I.B. 12.

<sup>85</sup> Gauer 1991, 45: "vor der Mitte des 6. Jhs."; 201 no. Le 196: ca. 550.

<sup>86</sup> Usually our no. 91 is considered to be a work from a Corinthian workshop: see Weber 1983, 36 with lit.

<sup>87</sup> The owner of the hydria no. 92 invited the present writer to publish this vase. The handles in the shape of a kouros and the other ornaments and shapes of both nos. 91 and 92 will be treated extensively by me in that publication.

<sup>88</sup> See Weber 1983, 76.

<sup>89</sup> For this ornament see Weber 35-37. Also rather typical are the knoblike raised centres of the volutes, which we have seen in the volutes of our subgroup VB, roughly dated in the years 555-545 and later.

<sup>90</sup> E. Walter-Karydi, *Samos VI, 1* (1973) 46f.: "Um die Jahrhundert- mitte bilden sich die Formen des Spätstils, die oft, vor allem auf Rhodos, ... seitliche Zwischenpalmetten zufügen."

Concave palmette leaves are also found on east-greek stelai and in architecture. Bathycles, the east-greek architect, applied them to the axillaries of the console capitals of Apollo's throne at Amyclae in Laconia (fig.)<sup>91</sup>, a most important monument, that may have influenced the Laconian bronze-smiths and vice versa, and was recently dated with good reasons around the middle of the 6th century B.C.<sup>92</sup>.

#### GROUP VII: CORINTHIAN IMITATIONS

One of the more difficult problems in the field of the archaic Greek bronzes is how to distinguish between Laconian and Corinthian products, especially in the second half of the 6th century when the Corinthian workshops started imitating the successful achievements of the Laconian bronze industry of the first half of that century. After 550 B.C. a mixed style arises, a *koine*, perhaps the result of a fruitful co-operation between the two centres or of a struggle to get a share in the market or to maintain it. A peaceful picture is drawn by Pausanias (VI, 4, 4) telling us that the Corinthian sculptor Eucheiros attended the school of the Spartan sculptors Sydras and Chartas<sup>93</sup>. When such co-operations were possible it is of course very difficult to distinguish between the works of masters and pupils, especially if the last ones turn out to be no lesser artists.

In spite of this handicap the study of palmettes and of the vases and other objects on which they are found will offer a surprisingly clear picture of the character of the Corinthian imitations, as will be shown below.

One of the most interesting bronze hydriae of the archaic period is the one found in a tomb at Trikala (Thessaly), here no. 93. It combines high quality of workmanship with a surprising amount of unorthodox detail<sup>94</sup>. This fact alone would be sufficient to demonstrate that it is the work of a gifted imitator with caprices due to his not being restricted by strong and long-established traditions. As most scholars have observed, the home of this bronze smith was Corinth<sup>95</sup>. The style of the kouros handle shows, however, some features of the face and the body that are recognized as Laconian<sup>96</sup> and can be explained as a result of the usual influence from that quarter on the Corinthian workshops in the second half of the 6th century<sup>97</sup>.

As for the palmette, on the lower attachment of the vertical handle the same unorthodox mixture of well-known elements and displaced details is visible: the small standing palmette between the boy's

knees has seven round-tipped convex leaves, the central leaf being elongated. By contrast the large hanging palmette below has, as far as it has been preserved, eleven pointed and ribbed leaves within a circular outline<sup>98</sup>. The volutes are flat, but lack the knoblike centre one would expect here, and they finish under the tails of the rams. The artist apparently did not get the point that they should continue into the volutes on which the rams lie, like his prototypes do (v. Rolley 1982, figs. 41-43). The same inconsistencies we find in the rendering of the neighbouring rams, for they have plain coats; an early feature in Laconia, which turns up in Corinth after 550<sup>99</sup>. And they have awkwardly bent forelegs, one above the other, while the bodies are clumsily shaped<sup>100</sup>.

As compared with no. 93, an oinochoe with an alleged Sicilian provenance, no. 94 is more conventional and therefore its attribution either to Laconia or to Corinth less obvious, although the high quality

Palmettes, in combination with lotuses in elaborate compositions in the exergues of Laconian cups, especially those made by the Rider Painter, who worked about the same time (see e.g. *LV* pl. 108, 1-2 and 109, 1).

<sup>91</sup> It has been cited above (notes 57 and 61) in connection with the lotus-palmette frieze (no. IVBa).

<sup>92</sup> Faustoferri 297ff., especially 342ff. For the east-Greek stelai see *ibid.* 308ff.

<sup>93</sup> Pausanias does not use the term sculptor: Bronze smith would also be appropriate, judging from the context. Sydras and Chartas are called "Spartiatai", which means "full Spartan citizens" (On this important detail see C.M. Stibbe, *Das andere Sparta*, 1996, 118-120).

<sup>94</sup> Of high quality is the almost female body type of the boy, but the unusual little sphinxes at the upper rim are also well-made; their tails, held by the youth, emerge from under their hind legs (which is odd). Other odd details are, again in the boy, his pronounced collar bones, the "Etagenperücke" and the kneeling attitude (an earlier Laconian example of which of high quality has been preserved: see Herfort-Koch 1986, 48f., 61, 69, 119 no. K 105, pl. 14, 3). The convex-shaped foot, decorated with an unusual kind of concave "prismas", has only a few parallels, dated ca. 530 B.C. (see Stibbe 1992, 39, 58 no. 12, a hydria in Baltimore).

<sup>95</sup> See Stibbe 1992, 32 n. 139.

<sup>96</sup> Wallenstein 78 (no. VII B 32). As Herfort-Koch 1986, 48f. points out, the idea of having the boy in a kneeling position, something unique in anthropomorphic hydria handles, was taken from a Laconian prototype (for which see note 94 above).

<sup>97</sup> After having studied the original in the National Museum in Athens I must admit that my dating of the Trikala hydria ca. 570-560 (Stibbe 1992, 32-35) was wrong. I was misled by the excentric features of its shape and style and therefore I now agree with a dating ca. 540-530 as proposed by Wallenstein 78 and others (cf. Stibbe 1992, 35n. 142).

<sup>98</sup> The palmettes on the horizontal handles are unequal: some have a round outline, others a more pointed one with an elongated central leaf, yet always with a total of eleven leaves.

<sup>99</sup> See Stibbe 1994a, 114.

<sup>100</sup> Compare the same type of rams on the Corinthian oinochoe in a Swiss private collection: Stibbe 1994a, 119 with pl. 27, 7.



of this piece leaves no doubt about its Greek mainland origin<sup>101</sup>. Thomas Weber places no. 94 in a Corinthian environment<sup>102</sup> and I am inclined to follow him<sup>103</sup>. Dating is less doubtful here: the rendering of the body of the handle-kouros makes it contemporary with the kouros of no. 93<sup>104</sup>. This dating is also important for the palmette with double volutes under the boy's feet: it has seven round-tipped leaves and belongs to the flat series. Its parallels are found in our subgroup IIIB (nos. 38, 40, 41, 42).

The oinochoe no. 95 is in the same tradition as no. 94, for it also has a grip in the shape of a youth standing on a palmette<sup>105</sup>. Most scholars agree on a Corinthian origin. The palmette is of an archaising type, subsequent to the early Laconian palmettes of our subgroup II E, although in combination with slightly concave volutes. The anomalies of this handle can be explained by its Corinthian origin<sup>106</sup>.

No. 96 offers a fine example of a Corinthian oinochoe trying to emulate a Laconian predecessor: every detail shows how it was borrowed and, through lack of experience and workshop tradition, slightly altered and worked improperly, as I tried to show elsewhere (AntK 37, 1994, 119). The palmette, with its seven (too) long pointed leaves and (too) much elongated volutes, is clearly an imitation of those of our subgroup VB. Another instance is offered by no. 97, a beaked jug from Vitzia (district of Ioannina). It has rightly been dated 550-540 and attributed to a Corinthian workshop by its publisher Vokotopoulou. Here we find the same characteristics as in no. 96: a palmette with seven pointed and ribbed leaves that are out of proportion compared with the flat, clumsily made volutes that seem to grow upside down out of the sides of the handle attachment and so have lost their relation to the palmette<sup>107</sup>.

This lack of a tradition of their own and the eclecticism resulting from it of the Corinthian bronze workers shows itself again in the handle of another beaked jug from Vitzia, no. 98, which has a different kind of palmette with seven long round-tipped leaves<sup>108</sup>. The volutes are properly placed but end in senseless stumps, a detail that, like the twisted handle grips, can be understood as archaising features<sup>109</sup>. The same eclectic taste is reflected in yet another kind of Corinthian palmette, this time with incisions. In Laconia incised palmettes belong to the earliest, experimental period, as we have seen above (Group A)<sup>110</sup>. No. 99, in Baltimore, is a very fine example<sup>111</sup>. It has seven round-tipped leaves, a cross-hatched centre like in our nos. 2 and 4, and small palmettes spring from the axils of the volutes, like in our no. 2. Again the archaising tendency is noticeable<sup>112</sup>.

In no. 97 we noticed a kind of abstract inverted volutes. This type, belonging to the experiments of Group A in Laconia at the beginning of the 6th century (no. 3), turns up in Corinth in the second half of this century, not only in no. 97, but also in no. 100, a handle from Olympia, dated by its context around

<sup>101</sup> A rather easy escape from an attribution problem would be, of course, to locate its origin in Magna Graecia, like has been done by D.G. Mitten, in *Master Bronzes* no. 77 ("South Italian, Tarentine?") and by Herfort-Koch 1986, 49 ("aus Tarent oder Umkreis").

<sup>102</sup> Weber 1983, 76.

<sup>103</sup> The rendering of the boy's hair, especially the way the horizontally ribbed braids fall on his shoulders from behind his ears, is good Corinthian (the same type as in nos. 93 and 95), whereas the knoblike eyes and the carved eyebrows follow Laconian examples (cf. the mirror handle no. 70).

<sup>104</sup> Gauer 1991, 159 dates 540-520.

<sup>105</sup> The shape of the body and the neck of the vase is slenderer than with no. 94, which in itself already points to a later production date for no. 95, but there are still more late elements leading e.g. Weber 1983, 276 to date this piece in the last quarter of the sixth century or even in the early part of the fifth.

<sup>106</sup> More anomalies: the youth raises his head instead of leaning it on the rim of the vase, as would be usual; the lions look at the spectator instead of in front of them (cf. Stibbe 1992, 32 n. 136).

<sup>107</sup> The face and the hair of the woman protome are schematic and lifeless, the high incised polos is an archaising feature (it imitates the polos on the female heads of the Laconian Gräichwil-Treia series; see Stibbe 1992, 20ff., Group G, fig. 32 and contemporaries of the first quarter of the sixth century). The schematic rendering of female protomes in Corinth becomes even more obvious with the other beaked jug from Vitzia, here no. 97.

<sup>108</sup> It is dated ca. 500 B.C. by Vokotopoulou 1975, 167.

<sup>109</sup> For the stumps see e.g. palmette no. 16. For the twisted handle see the amphora handles in Princeton: Stibbe 1994b, 93ff., figs. 13-14. For the archaising female protome see note 107 above.

<sup>110</sup> See also Stibbe 1996, 363. That this kind of incised palmettes and volutes may also have been directly influenced by those on the "Rhodian" jugs is suggested by the appearance of such a jug in a grave at Ugento, together with our no. 102 (Rolley 1982, 26. Shefton 1979, 65 no. A 17). The shape of the handle, too, with its high loop and the huge rotelles, decorated on the outer faces with incised rosettes, point to a direct influence from those quarters. Our no. 102 has the same type of handle, only with a lion protome instead of a woman's head.

<sup>111</sup> Dated 520-510 by D.G. Mitten, *Master Bronzes* 78 c, and by Gauer 1991, 159 "3. Viertel des 6. Jhs.". Both attribute the handle to Corinth (Mitten with a question mark). The preserved attachment to the rim suggests it to be a hydria handle: the same attachment in the shape of a protruding and pierced oblique projection can be seen on the Ugento hydria in Taranto: Rolley 1982, fig. 116.

<sup>112</sup> The female protome at the upper attachment (*Master Bronzes* 78) again shows, like nos. 96 and 97, the lifeless schematic style: note e.g. the notched braids: one falling from behind the ear while the other is reduced to an abstract ornament, following from behind the ear the borderline of the handle. The eyes with their heavy lids and unsymmetrical placing, together with the carved eyebrows, are of the Laconian type (like with no. 94), but the face as a whole remains a dead imitation, as with nos. 95 and 96.



the middle of the 6th century<sup>113</sup>, likewise in no. 101, a horizontal hydria handle from Delphi<sup>114</sup> and a vertical hydria handle from Ugento, no. 102<sup>115</sup>.

How a local south-italian imitation of such Corinthian imports looks like we can gather from an oinochoe handle in the museum of Lecce, no. 103. The shape of the palmette is an imitation of our no. 99, but every detail is carelessly and clumsily executed.

## CONCLUSIONS

One of the most striking results of our inquiry is the chronological picture emerging here of the use of the palmette on Laconian bronze vessels and other artefacts: coming into use towards the end of the 7th century B.C. (Group A) and becoming obsolete at the end of the third quarter of the 6th century. This lower *terminus* can be observed in our Groups IV, V and VI, as the following summary shows:

- Group I : palmettes with much incision; end 7th cent. B.C.
- Group II : palmettes with convex carved round-tipped leaves; end 7th - beginning 6th cent.
- Group III : palmettes with flat carved round-tipped leaves; end 7th - end third quarter of 6th cent.
- Group IV : Overlapping style: palmettes with slightly rounded or pointed leaf tips, uncanonical in number; 570-560
- Group V : Canonical style: palmettes with nine pointed and ribbed leaves; 555-525
- Group VI : Concave palmettes and volutes; 550-525
- Group VII : Corinthian imitations; 550-500/450 B.C.

This result, which accords well with the chronology of the painted palmettes on Laconian clay cups<sup>116</sup>, is important for the whole dating system of the bronze vessels and other artefacts of the 6th century which in modern literature is still much in dispute. All possible kinds of palmettes are represented on Laconian bronze vessels: incised (Group A), convex (Group II), flat (Group III) and concave (Group VI). The last possibility is presented here for the first time.

Each part of the palmette, the volutes, the leaves and the centre turns out to have a history of its own, running parallel with the other parts. This consistency is observed only in the products of the Laconian bronze industry, as far as our knowledge of it is today. This phenomenon is corroborated, again, by the equally consequential development of the handle

palmettes in Laconian vase painting, even when subjected to their own artistic rules and technical limitations<sup>117</sup>. As for the Corinthian bronze palmettes (Group VII): they offer a key for a better understanding of the similarities and the differences in the Laconian and Corinthian output<sup>118</sup>.

By imitating every stage of the earlier development of the Laconian palmette all in the same period (the latter half of the 6th century) the Corinthian bronze smiths betray their eclectic archaising methods and taste, which is also reflected in the other ornaments of the Corinthian vessels of the period.

## CATALOGUE OF PALMETTES

The description and bibliography of each entry have been restricted to a minimum. Whenever a more complete bibliography has been published, a reference is given. Measurements are omitted as these are usually to be found in first publications. For reasons of easier citing the numbering of the entries runs through all groups, so from no. 1 in Group I to no. 103 in Group VII. Under the heading "Compare also....." additional palmettes, often in other material than bronze, are catalogued with the number of the Group or Subgroup followed by a, b, c etc. In the case of the bronze hydriae only the palmettes at the lower attachment of the vertical handle are as a rule taken into consideration, because in most cases the other palmettes at the horizontal handles are smaller and therefore less elaborated. Thus they may cause unwarranted confusion when treated separately.

### GROUP I: EXPERIMENTS

- 1 Handle of a hydria. Munich, Staatliche Antikensammlungen Br 183. Provenance: unknown (ex Dodwell). Stibbe 1992, 10f., 53 no. B9, fig. 14 (bibl.).

<sup>113</sup> Gauer 1991, 159 compares with still another oinochoe handle in Brussels, which indeed shows similar features: *AJA* 66 (1962) 58ff. pl. 15, 2-3.

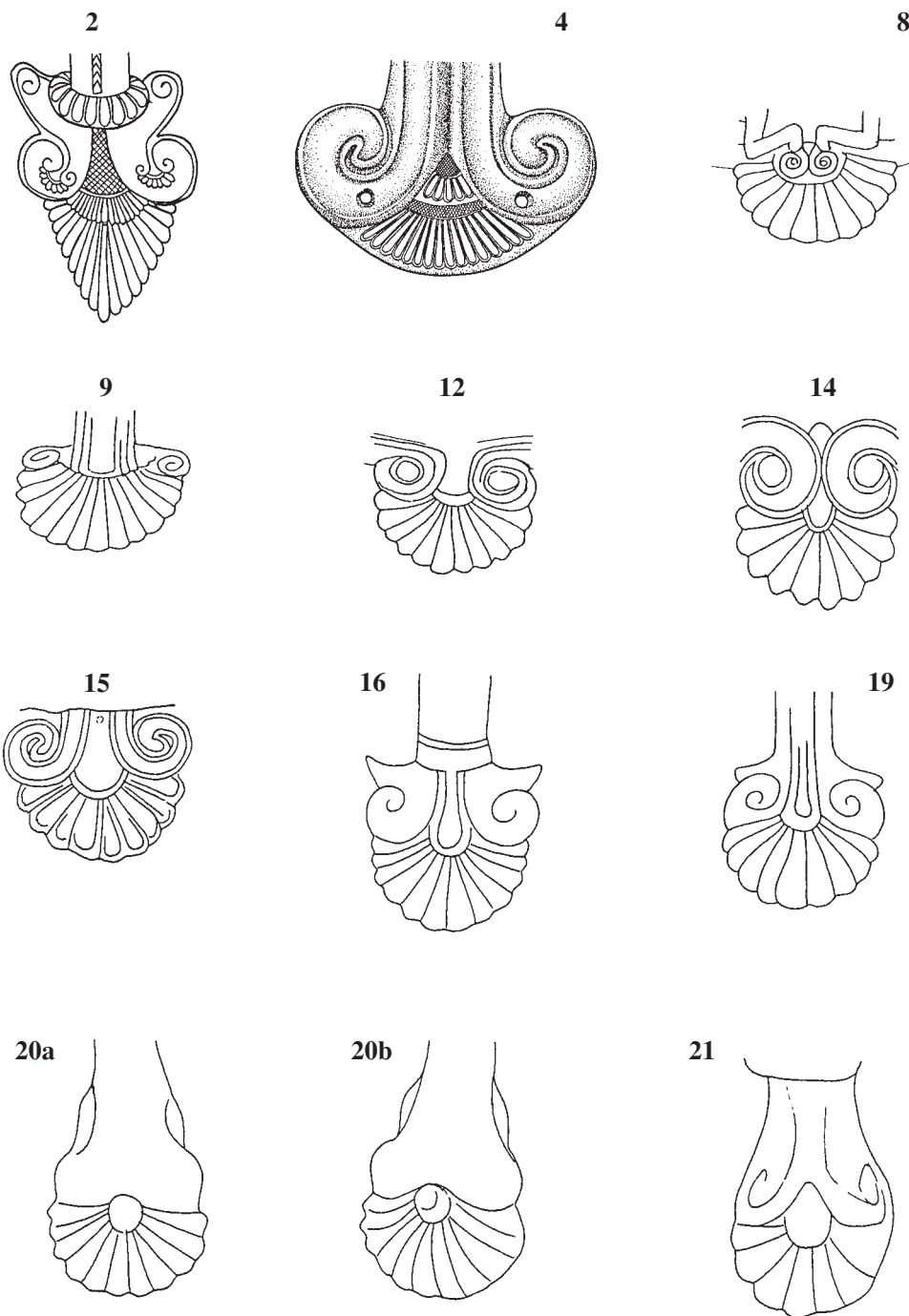
<sup>114</sup> Rolley 1982, 26 notes a handle attachment from Perachora (Perachora I, pl. 67.6) "ce qui constitue un nouveau point de contact avec Corinthe".

<sup>115</sup> See my remarks in Stibbe 1992, 10. Now I think that Lo Porto was not correct in dating the hydria from Ugento in the second quarter of the sixth century. I would prefer now a lower dating somewhere in the third quarter, because of the Corinthian origin and of the affinities shown with the other handles of Group VII.

<sup>116</sup> For painted palmettes see the publication of the bronze kylix in this volume p. 34.

<sup>117</sup> See preceding note.

<sup>118</sup> The statement by Votokopoulou 1975, 169, that the number of palmette leaves has no chronological significance is true only for the Corinthian palmettes. As we have shown with the consequential development of the Laconian palmettes, the number of the leaves proves of prime importance when establishing their chronology.



*Fig. 1. Handle-palmettes*

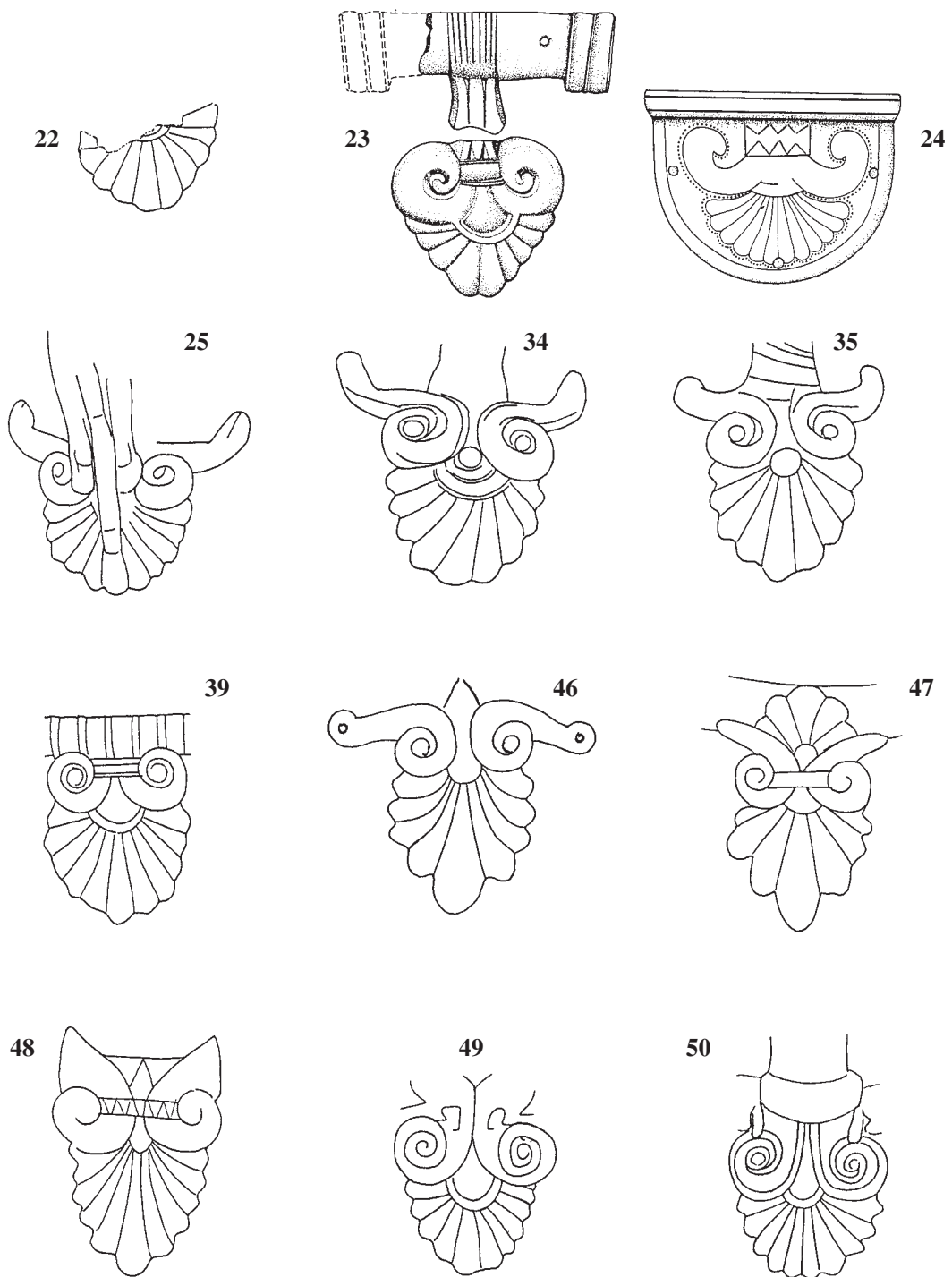
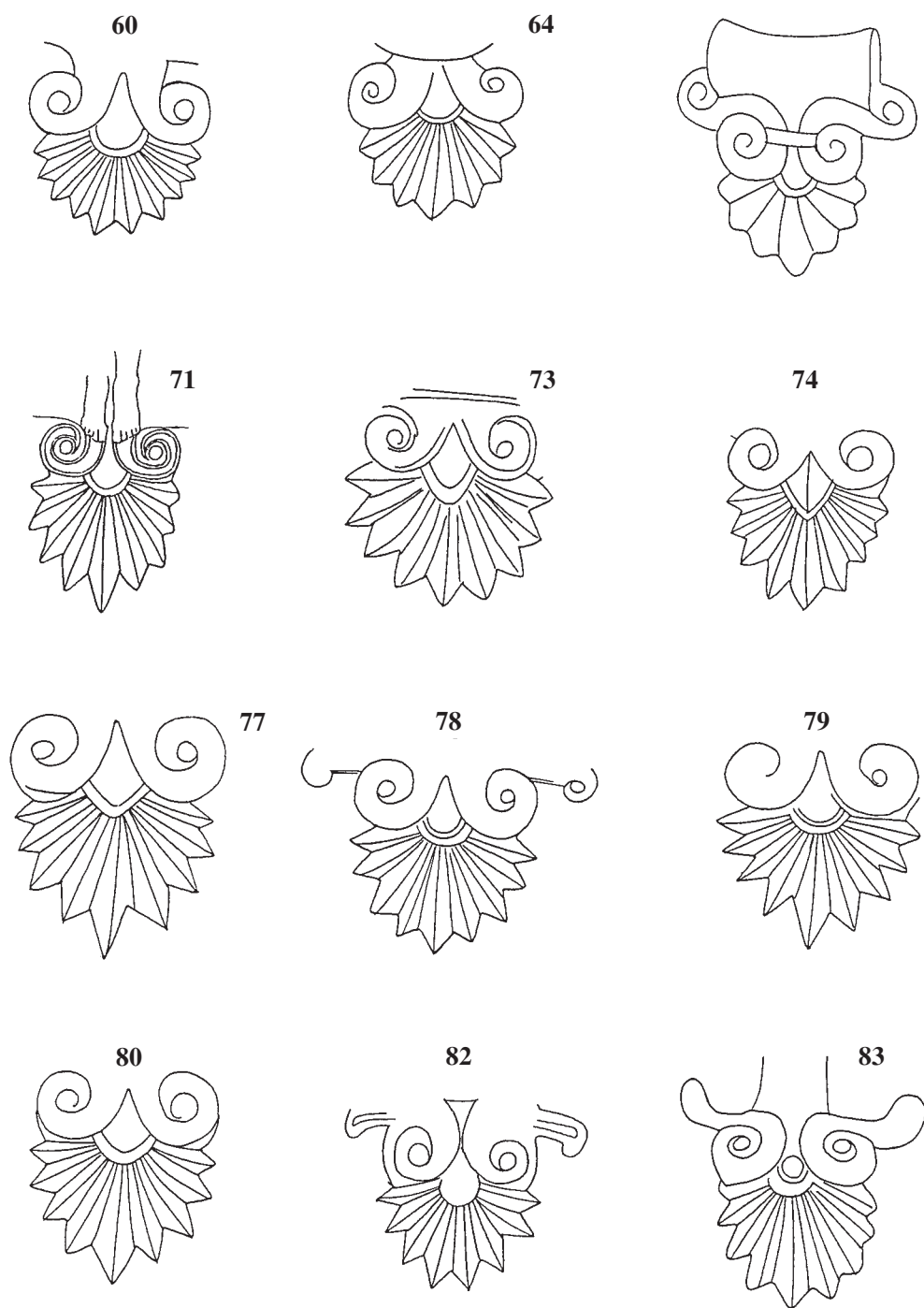


Fig. 2. Handle-palmettes



*Fig. 3. Handle-palmettes*

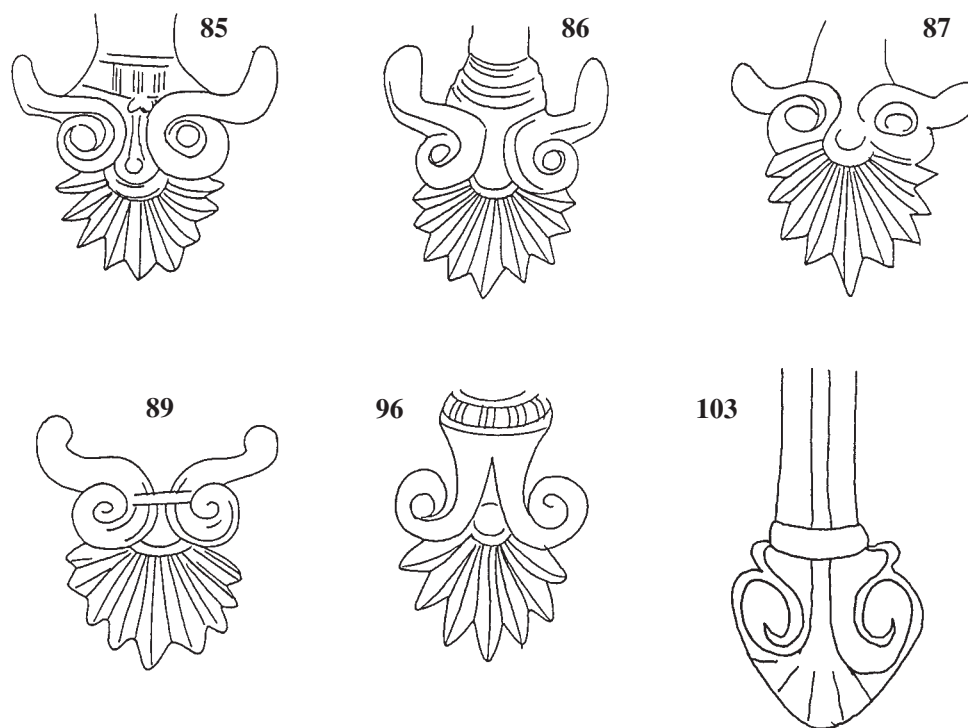


Fig. 4. Handle-palmettes

- 2 Oinochoe. Mainz, Römisch Germanisches Zentralmuseum O. 15 422. Provenance: unknown. Weber 1983, 210f. pl. 1. Stibbe 1996, 364 no. 28 pl. 30, 1-30. Here fig. 1.
- 3 Handle of a hydria. Paris, Louvre Br 2646. Provenance: unknown (ex Campana). Stibbe 1992, 20, 55 no. F10. Stibbe 1996, 362 no. 3, pl. 27, 1 (bibl.)
- 4 Handle of a hydria. Olympia, Museum B 6969. Provenance: Olympia. Gauer 1991, 260 no. Hy 23, fig. 27, 4. pl. 88, 2. Stibbe 1992, 11, 53 no. B10, fig. 15. Stibbe 1996, 364 n. 29 (bibl.) Here fig. 1.
- 5 Handle of a hydria. Jerusalem, Israel Museum 91.71.315. Provenance: Capua (ex Doria, ex Schimmel). Stibbe 1996, no. 2 pl. 26, fig. 1 (bibl.).
- 7 Handle of oinochoe. Dresden, Staatliche Kunstsammlungen ZV 1381. Provenance: Italy. Stibbe 1996, 365 mit Anm. 37, Taf. 32.
- 8 Handle of a hydria. Brussels, Musées Royaux d'Art et d'Histoire R 1179. Provenance: allegedly Caere. Stibbe 1992, 27, 56 no. G8 (bibl.), fig. 37. Here fig. 1.
- 9 Handle of a hydria. Oxford, Ashmolean Museum 1891.411. Provenance: Gela. Stibbe 1992, 18, 54 no. D4 (bibl.), fig. 22. Here fig. 1.
- 10 Oinochoe. Oxford, Ashmolean Museum 1874.482. Provenance: Nîmes (?). Stibbe 1996, 365 n. 36, pl. 31.

#### Subgroup IIB

Compare also:

Lead pendants: AO pl. CLXXXI, nos. 13-17 ("Lead I") and pl. CLXXXV, nos. 1-5 ("Lead II").

#### GROUP II: CONVEX CARVED LEAVES WITH ROUND TIPS

##### Subgroup IIA

- 6 Fragment of the show handle of a hydria. Athens, National Museum 6781. Provenance: Athens, acropolis. Stibbe 1992, 26, 56 no. G4 (bibl.). Stibbe 1995, 71f., pl. 17, 3.
- 11 Hydria. Pesaro, Museo Oliveriano 3314, 3316. Provenance: Treia. Stibbe 1992, 24, 56 no. G2 (bibl.), figs. 33-35. Stibbe 1995, 68ff. no. 1, pl. 17, 1.2.4.5.
- 12 Hydria. Bern, Bernisches Historisches Museum 11620. Provenance: Grächwil. Stibbe 1992, 20ff., 55 no. G1 (bibl.), figs. 32, 35. Stibbe 1995, 69ff.
- 13 Tripod. Berlin, Staatliche Museen, Antikensammlung Fr. 768. Provenance: Metapontum. Herfort-Koch 1986, 67 n. 238 (bibl.). Stibbe 1992, 22 n. 96, figs. 69-70.
- 14 Fragment of a tripod. Olympia, Museum B 6100. Provenance: Olympia ("SO, Brunnen 29"). Gauer 1991, 87, 254 no. M 23 (bibl.), pl. 10, 1; 77, 3; 90, 5. Here fig. 1.





Fig. 5. Cat. No. 17: Belfast, Ulster Museum B7: 1975

- 15 Hydria. Berlin, Staatliche Museen, Antikensammlung 30880. Provenance: southern Italy. Stibbe 1992, 14, 54 no. D1 (bibl.), fig. 20, 35. Here fig. 1.

#### Subgroup IIC

- 16 Handle of a hydria. Olympia, Museum B 4340. Provenance: Olympia ("StN, H West"). Gauer 1991, 98, 259 no. Hy 17 (bibl.), pl. 11, 1; 88, 1. Stibbe 1992, 8, 53, no. B3. Here fig. 1.
- 17 Handle of oinochoe. Belfast, Ulster Museum B7: 1975. Provenance unknown. Weber 1983, no. I.D. 17. Stibbe 1994a, 110, pl. 26, 4-5. Stibbe 1996, 365 n. 38. Here fig. 5.
- 18 Handle of oinochoe. Atena Lucana, Antiquarium Comunale. Provenance: Atena Lucana. W. Johannowsky, *PP CXCV* (1980) 452f., figs. 7-8. Stibbe 1996, 365 n. 36.

#### Subgroup IID

- 19 Handle of a hydria. Delphi, Museum 6. Provenance: Delphi. Stibbe 1994b, 99 no. 3 (bibl.), fig. 20. Here fig. 1.
- 20a & 20b Two handles of a cauldron. Olympia, Museum Br. 11453 and 849. Provenance: Olympia. Gauer 1991, 85, 251 nos. M2, M3, pl. 54, 1a-b. Here fig. 1.
- 21 Attachment. Olympia, Museum B 1851. Provenance: Olympia ("StS, 2. Wall"). Gauer 1991, 191 no. Le 79, pl. 54, 4a. Here fig. 1.
- 22 Fragment of a tripod. Olympia, Museum B 282. Provenance: Olympia ("beim Südfundament der Echohalle"). Gauer 1991, 236 no. S 97, pl., 37, 2c. Here fig. 2.
- 23 Handle ornament of a cauldron, Olympia, Museum Br. 5659. Provenance: Olympia ("Südostbau").

Gauer 1991, 48, 205 no. Le 232, pl. 37, 2b; fig. 4, 5. Here fig. 2.

- 24 Attachment of a situla. Olympia, Museum B 5934. Provenance: Olympia ("SO, 022"). Gauer 1991, 114, 270 no. E 26, pl. 97, 1b; fig. 31, 16. Here fig. 2.

#### Subgroup IIE

- 25 Hydria. Paestum, Museo Archeologico Nazionale 49801. Provenance: Paestum, Heroon. Rolley 1982, 19 and passim, no. 5, fig. 5, 14, 59-61, 65, 67, 70, 154. Stibbe 1992, 29-30, no. G11. Cat. *The Western Greeks* (1996) 371, pl. (in colours), 696 no. 145, V. Here Fig. 2.
- 26 Silver strainer. Uşak, Museum. Provenance: Toptepe (Asia Minor, ancient Lydia). A.M. Steiner, in *Archeo* 10 no. 2 (1995) 67, ill.

Compare also

- IIEa Clay oinochoe with snake palmette. Rome, Palazzo dei Conservatori 38. Provenance unknown. Stibbe 1994a, 118 with n. 78 and pl. 27, 6.
- IIEb Handle fragment of clay oinochoe. Sparta, Museum store. Provenance: Sparta, sanctuary of Artemis Orthia, AO fig. 65 w. Here fig. 6.

#### GROUP III: FLAT CARVED LEAVES WITH ROUND TIPS

##### Subgroup IIIA

- 27 Hydria. Oxford, Ashmolean Museum 1890.590. Provenance: Capua. Stibbe 1992, 6-7, 53 no. B1 (bibl.), fig. 8.



Fig. 6. Cat. No. IIEb: Sparta, Museum, from Sparta

- 28 Amphora. Paestum, Museo Archeologico Nazionale 49807. Provenance: Paestum, Heroon. Rolley 1982, 22 and passim, no. 9, figs. 11, 20, 85-87. Stibbe 1992, 49, 52, 61 no. Nn1, fig. 63. Cat. *The Western Greeks* (1996) 696f., no. 145 VI.
- 29 Attachment of cauldron. Olympia, Museum Br. 10297. Provenance: Olympia ("Südwesten des Pelopion"). Gauer 1991, 48f., 205 no. Le 234, pl. 37, 1a.
- 30 Attachment of cauldron. Olympia, Museum Br. 3531. Provenance: Olympia ("PhW, Bau C, Werkstatt-schicht"). Gauer 1991, 48f., 205 no. Le 233, pl. 37, 1b.
- 31 Handle of oinochoe. Iraklion (Crete), Museum. Provenance: Palaioakastro (Crete). S. Benton, *BSA* XL (1939/40) pl. 28.
- 32 Handle of a hydria. Olympia, Museum Br. 11764. Provenance: Olympia ("Nördl. Palästra"). Gauer 1991, 159, 260 no. Hy 24, pl. 89, 4b. Stibbe 1994b, 99, fig. 21.
- 33 Handle of a hydria. Vienna, Kunsthistorisches Museum 200/1. Provenance: allegedly from the Peloponnesus. Stibbe 1992, 8, 53 no. B4 (bibl.), figs. 10-11.

#### *Subgroup IIIB*

- 34 Handle of a hydria. Belgrade, National Museum 200/1. Provenance: Trebenischte. Rolley 1982, fig. 106. Stibbe 1992 48, 60 no. N2. Here fig. 2.
- 35 Amphora. Bitola, Museum 103. Provenance: 'Visoi II'. Rolley 1982, fig. 107. Stibbe 1992, 52 no. Nn2. Here fig. 2.
- 36 Fragmentary hydria. Athens, National Museum 7454. Provenance: Eretria. Stibbe 1992, 43, 59 no. K1 (bibl.).
- 37 Handle of hydria. Boston, Museum of Fine Arts 99.462. Provenance: allegedly Athens. Stibbe 1992, 41, 59 no. I 4 (bibl.), fig. 52.
- 38 Handle of a hydria. Olympia, Museum B 819. Provenance: Olympia ("SHA, tief vor der Südost-ecke"). Gauer 1991, 108, 262 no. H 43, pl. 91, 4.
- 39 Attachment of cauldron. Olympia, Museum B 3060. Provenance: Olympia ("PhW, Bau C, Raum F"). Gauer 1991, 200 no. Le 191, pl. 30, 4. Here fig. 2.
- 40 Mirror support. Vienna, Kunsthistorisches Museum As IV 2952. Provenance: allegedly Nemea. Herfort-Koch 1986, no. K 66, pl. 9, 5. Here fig. 7.
- 41 Mirror support. New York, Metropolitan Museum 74.51.5680. Provenance: allegedly southern Italy. *AJA* 42 (1938) 340, fig. 2. Herfort-Koch 1986, no. K 61.
- 42 Sphinx from tripod. Munich, Staatliche Antikensammlungen 702. Provenance: probably southern Italy (ex Lipona). Maass 1979, no. 30 with ill. and bibl.
- 43 Handle of a hydria. Sparta, Museum 1703. Provenance: Menelaion. *BSA* 15 (1908/9) 149, fig. 14, 3. Stibbe 1992, 44, 59 no. K4.
- 44 Handle of an oinochoe. Iraklion (Crete), Museum 154. Provenance: Idaean Cave. Diehl 1964, pl. 1, 1 and 4.
- 45 Hydria. Athens, National Museum 7915. Provenance: Aigion. Politis 1936, figs. 16, 18, pl. 2. Stibbe 1992, 43, 59 no. K2.



Fig. 7. Cat. No. 40: Vienna, Kunsthistorisches Museum IV 2952, allegedly from Nemea

- 46 Handle of a hydria. Munich, Staatliche Antikensammlungen 3447. Provenance: allegedly from Olympia. Stibbe 1992, 43 no. K5 (bibl.), fig. 57. Here fig. 2.
- 47 Attachment of a vessel. Olympia, Museum B 1581. Provenance: Olympia ("Stadion, 4. Südwall"). Gauer 1991, 250 no. Te 17, pl. 31, 6. Here fig. 2.
- 48 Attachment of a vessel. Olympia, Museum B 1221. Provenance: Olympia ("Mos. Südhälfte"). Gauer 1991, 201 no. Le 200, pl. 31, 4b. Here fig. 2.

GROUP IV: TRANSITIONAL TYPES

*Subgroup IVA*

- 49 Hydria. Syracuse, Museo Regionale. Provenance: Gela. Rolley 1982, 43, fig. 151. Stibbe 1992, 15f., 54 no. E 1 (bibl.). Here fig. 2.
- 50 Handle of a hydria. Mariemont, Musée Royal B 210. Provenance: allegedly from Athens, acropolis. Stibbe 1992, 16, 55 no. E 3 (bibl.). Stibbe 1994b, fig. 19. Here fig. 2.
- 51 Fragmentary hydria. Naples, Museo Nazionale 86527. Provenance: Cumae. Rolley 1992, fig. 157. Stibbe 1992, 7f., 53 no. B2 (bibl.).
- 52 Handle of oinochoe. Berlin, Staatliche Museen, Antikensammlung Fr 600. Provenance: unknown. Weber 1983, 248 no. I. B. 10. Here fig. 8, 9.
- 53 Handle of oinochoe. Sofia, National Museum. Provenance: Trebenischte, tomb V, 27. Filow 1925, 61f. no. 73, figs. 64-67. Weber 1983, 224f. no. I.A. 22 (bibl.).
- 54 Handle of oinochoe. Naples, Museo Nazionale. Provenance: Cumae. Filow 1925, 61, fig. 68 a-b. Weber 1983, 226 no. I.A. 24 (bibl.).
- 55 Amphora. Sofia, National Museum. Provenance: Trebenischte, tomb II 34. Filow 1925, 57ff. no. 71, figs. 59-62. Stibbe 1992, 52, 61 no. Nn3.

Compare also:

- IVAA Uşak, Museum. Silver oinochoe. Provenance: Toptepe (Asia Minor, ancient Lydia). Weber 1983, 275 no. I.D.9 (bibl.). J.R. Mertens, in *Small Bronze Sculpture from the Ancient World* (Malibu, 1990) 87 with fig. 2. A.M. Steiner, in *Archeo* 10 no. 2 (1995) 83-84, figs.
- IVAb Fragment of the handle with snake palmette of a clay oinochoe. Sparta, Museum store. Provenance: Amyclae. Stibbe 1994a, 117 with n. 66, pl. 27, 1.



Fig. 8. Cat. No. 52: Berlin, Staatliche Museen, Antikensammlung Fr 600



Fig. 9. Cat. No. 52: detail of Fig. 8



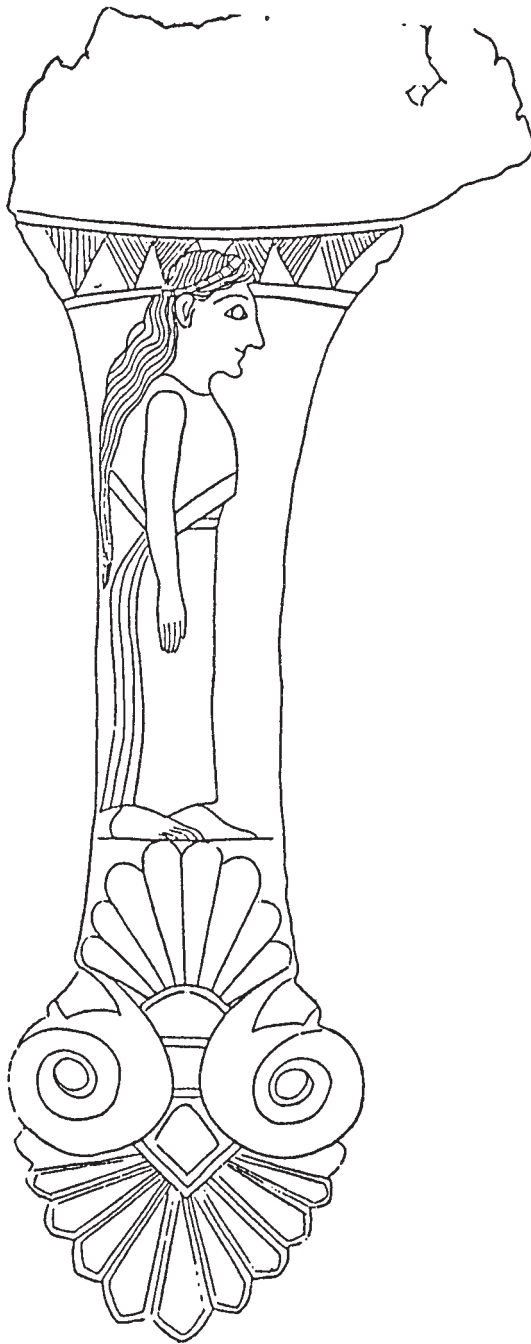


Fig. 10. Cat. No. 56: Kalamata, Museum, from sanctuary of Artemis Limnatis, Taygetos

- IVAc Fragment of the handle with snake palmette of a clay oinochoe. Olympia, Museum. Provenance: Olympia (Stadion). *Olympia-bericht* III (1938/9) 21-23, fig. 9. Stibbe 1994a, 117 n. 65.

- IVAd Fragment of the handle with a snake palmette of a clay oinochoe. Athens, National Museum. Provenance: Perachora. Perachora II, 384 no. 4113, pl. 159. Stibbe 1994a, 119 n. 84.
- IV Ae Handle of a fragmentary blackfigured clay oinochoe. Sparta, Museum 1017. Provenance: Sparta. LV 66, 223 no. 60, pl. 26. Stibbe 1992, 3, no. 2, fig. 2.
- IV Af Fragmentary blackfigured clay hydria. Paris, Louvre S 3996. Provenance: Etruria. LV 79f., no. 44. Stibbe 1992, 3 no. 4, fig. 5.

#### Subgroup IVB

- 56 Handle of a mirror. Kalamata, Museum. Provenance: sanctuary of Artemis Limnatis (Mt. Taygetos). *ADelt* 17 (1961/2 - B 1) 96, fig. 4. Here fig. 10.
- 57 Hydria. Hamburg, Museum für Kunst und Gewerbe. Provenance: unknown (ex Kropatscheck). Stibbe 1992, 16f., 55 no. F 1 (bibl.).
- 58 Handle of a oinochoe. Copenhagen, Thorvaldsen Museum H.2273. Provenance: unknown. Weber 1983, no. I.D.7 (bibl.). Stibbe 1994a, 115, pl. 26, 7. Here fig. 11.
- 59 Oinochoe. Jerusalem, Collection E. Borowski. Provenance: a hoard at Barrafranca, Sicily. Weber 1983, 282 no. I.D. 15 (bibl.). Stibbe 1994a, 119.
- 60 Handle of the lid of the Vix crater. Châtillon-sur-Seine, Museum. Provenance: celtic tomb near Vix. R. Joffroy, *Vix et ses Trésors* (1979) fig. 38. Rolley 1982, fig. 168. Here fig. 3.
- 61 Oinochoe. Basel, Antikenmuseum und Sammlung Ludwig BS 516. Provenance: unknown. Stibbe 1994a, 108ff., pl. 25, 1-4; 26, 1. Here fig. 12.
- 62 Handle of oinochoe. Olympia, Museum B 4643. Provenance: Olympia. Unpublished. Here fig. 13.
- 63 Handle of oinochoe. Barcelona, Museo Arqueológico. Provenance: Province of Sevilla. *Ampurias* V, fig. 1.
- 64 Hydria. Paestum, Museo Archeologico Nazionale 49802. Provenance: Paestum, Heroon. Rolley 1982, 20 no. 6, fig. 63. Stibbe 1992, 9f., 53 no. B6, fig. 13. Cat. *The Western Greeks* (1996) 696 no. 145, IV. Here fig. 3.
- 65 Show handle of hydria. New York, Metropolitan Museum, Rogers Fund, Acc. no. 06.1093. Provenance: allegedly Taranto. Stibbe 1992, 32, 57 no. G 18 (bibl.), fig. 43.
- 66 Oinochoe. Berlin, Staatliche Museen, Antikensammlung Misc 10409. Provenance: allegedly Pergamon. Weber 1983, 243 no. I.B.5 (bibl.). Here figs. 14, 15.
- 67 Handle of hydria. Olympia, Museum B 5290. Provenance: Olympia ("SO, P 37, spätarch. 'Knochen-schicht'"). Gauer 1991, 100f., 258f., no. Hy 13, fig. 27, 3; pl. 87, 2. Stibbe 1992, 15, 54 no. D2.

#### Compare also

- IVBa Palmette carved in stone. Sparta, Museum. Provenance: Amyklaion. Faustoferri 1996, 5, 11. Here fig. 16.
- IVBb Clay hydria. Rhodos, Museum 15373. Provenance: Ialyssos. LV 124, 137f., no. 219, pls. 75-77. Stibbe 1992, 3, fig. 6. Here fig. 17.



*Fig. 11. Cat. No. 58: Copenhagen, Thorvaldsen Museum H. 2273, from Barrafranca, Sicily*



*Fig. 12. Cat. No. 61: Basel, Antikenmuseum und Sammlung Ludwig BS 516*





*Fig. 13. Cat. No. 62: Olympia, Museum B 4643, from Olympia*



*Fig. 14. Cat. No. 66: Berlin Staatliche Museen, Antikensammlung Misc 10409, allegedly from Pergamon.*



*Fig. 15. Cat. No. 66: detail from Fig. 14*



Fig. 16. Cat. No. IVBa: Sparta, Museum, from Amyclae

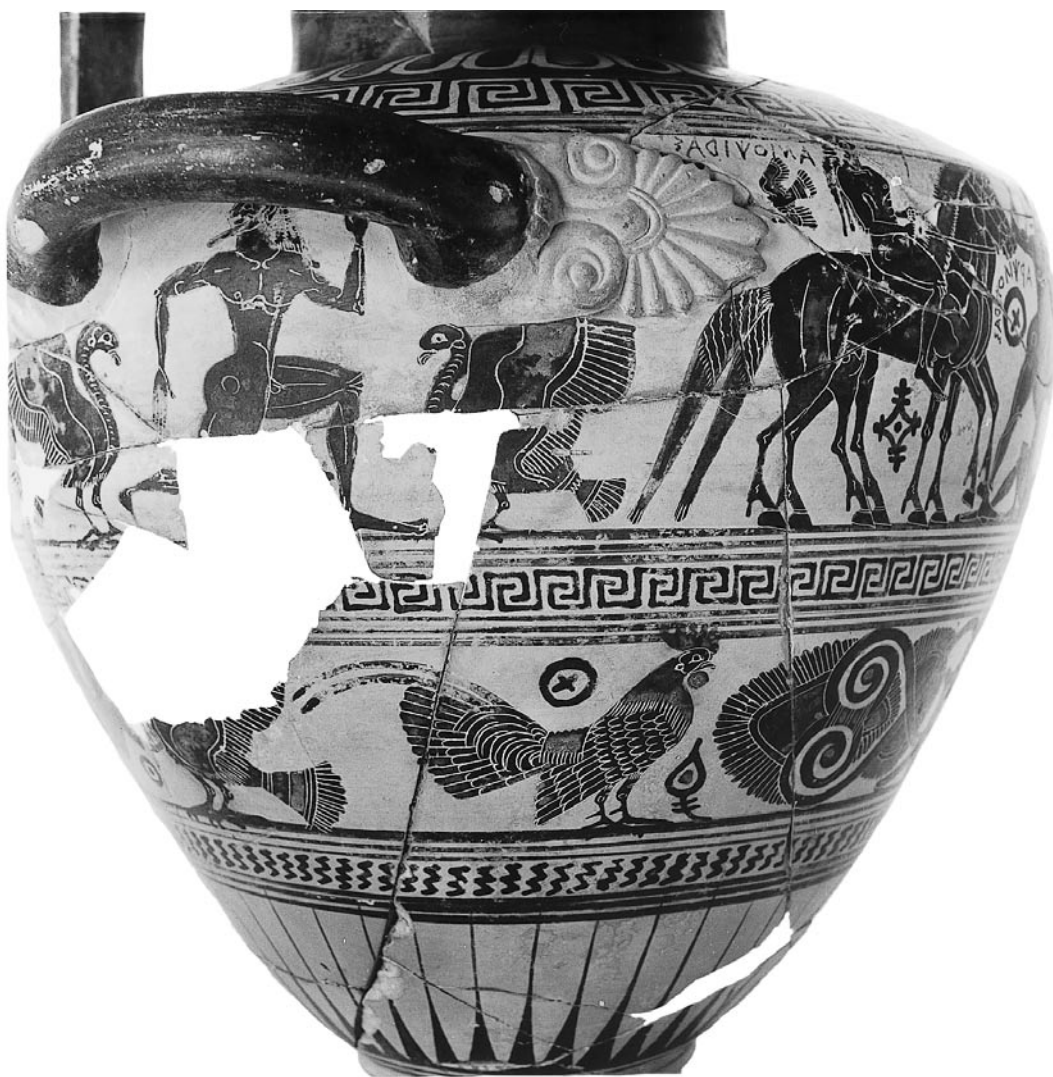


Fig. 17. Cat. No. IVBb: Rhodos, Museum 15373, from Ialyssos

- IVBc Handle of bronze oinochoe. Athens, National Museum 7948. Provenance: Olympia. P. Kalligas, *AAA* 13 (1980) 235-245. Here fig. 3.
- IVBd Handle of cauldron (?). Athens, National Museum. Provenance: sanctuary of Apollo Hyperteleatas at Phoiniki (Laconia). P. Kalligas, *Lakonikai Spoudai* V (1980) fig. 15 upper centre.
- IVBe Bronze attachment. Olympia, Museum Br. 12131. Provenance: Olympia. Gauer 1991, 45, 200 no. Le 192, pl. 31, 1.

#### GROUP V: THE MATURE OR CANONIC STYLE

##### Subgroup VA

- 68 Fragmentary small oinochoe. London, British Museum 1856. 12-26.645. Provenance: allegedly Ruvo (ex Temple). Weber 1983, 273 no. I.D.6 (bibl.).
- 69 Handle of oinochoe. London, British Museum 1824.4-5.6. Provenance: probably southern Italy (ex Hamilton). Weber 1983, 283 no. I.D.16 (bibl.).
- 70 Mirror support. Munich, Staatliche Antikensammlungen 3482. Provenance: Hermione (Argolis). Maass 1979, 13ff. no. 4 (ill. and bibl.).
- 71 Hydria. Berlin, Staatliche Museen, Antikensammlung Misc 8467. Provenance: Randazzo. Stibbe 1992, 34 fig. 44, 57 no. H2 (bibl.). Here fig. 3.
- 72 Handle of hydria. Boston, Museum of Fine Arts 99.460. Provenance: perhaps Palaiopolis (Patras art market). Stibbe 1992, 58 no. H11 (bibl.), fig. 47. Here fig. 3.

##### Subgroup VB

- 73 Hydria. Lecce, Museo. Provenance: Rudiae. G. delli Ponti, *I Bronzi del Museo Provinciale di Lecce* (1973) 23 no. 22 a-c. pl. 15-17. Rolley 1982, 24, 50f., figs. 6, 16, 72, 159, 160. Stibbe 1992, 8f., 53 no. B5. *Italia, omnium terrarum alumna. La civiltà dei Veneti, Reti, Liguri, Celti, Piceni, Umbri, Latini, Campani* (1988) fig. 645 (in colours). Here fig. 3.
- 74 Hydria. New York, Metropolitan Museum 67.11.7. Provenance: allegedly Sicily. Stibbe 1992, 15, 17 fig. 21, 54 no. D3. Here fig. 3.
- 75 Hydria. Athens, National Museum 15137. Provenance: Eretria. Stibbe 1992, 19, 55 no. F6 (bibl.).
- 76 Handle of a hydria. Olympia, Museum B 5262. Provenance: Olympia ("SO, P 37 'Knochenschicht'"). Gauer 103f., 259 no. Hy 14, pls. 1, 4; 74, 3; 87, 3. Stibbe 1992, 19, 55 no. F7.
- 77 Hydria. Paris, Petit Palais, coll. Dutuit. Provenance: Sala Consilina. Rolley 1982, fig. 55. Stibbe 1992, 19, fig. 27, 55 no. F5 (bibl.). Here fig. 3.
- 78 Hydria. Paestum, Museo Archeologico Nazionale 49803. Provenance: Paestum, Heroon. Rolley 1982, 17f. no. 1, fig. 41. Stibbe 1992, 19, 55 no. F2 (bibl.). Cat. *The Western Greeks* (1996) 696 no. 145 I. Here fig. 3.
- 79 Hydria. Paestum, Museo Archeologico Nazionale 49804. Provenance: Paestum, Heroon. Rolley 1982, 17f. no. 2, fig. 42. Stibbe 1992, 16ff., 55 no. F3. Cat. *The Western Greeks* (1996) 696 no. 145 I. Here fig. 3.

- 80 Hydria. Paestum, Museo Archeologico Nazionale 49800. Provenance: Paestum, Heroon. Rolley 1982, 17f. no. 3, fig. 43. Stibbe 1992, 16ff., 55 no. F3. Cat. *The Western Greeks* (1996) 696 no. 145 III. Here fig. 3.
- 81 Handle of hydria. Heidelberg, Archäologisches Institut F 162 a. Provenance: allegedly from Greece. Stibbe 1992, 19, 55 no. F8 (bibl.), figs. 28-30.
- 82 Handle of hydria. Munich, Staatliche Antikensammlungen 3860. Provenance: allegedly Sparta. Stibbe 1992, 16, 55 no. E2 (bibl.), fig. 23. Here fig. 3.

##### Subgroup VC

- 83 Hydria type N. Belgrade, National Museum 199/1. Provenance: Trebenische. Stibbe 1992, 48, 60f. no. N5 (bibl.). Here fig. 3.
- 84 Handle of hydria type N. Belgrade, National Museum. Provenance: allegedly Donja Belica (near Trebenische, art market). N. Vulic, *AA* 1933, col. 481, fig. 18. Stibbe 1992, 61 no. N4. Stibbe 1994b, 101 n. 53.
- 85 Hydria type N. Paestum, Museo Nazionale Archeologico. Provenance: Paestum, Heroon. Rolley 1982, 21 no. 7, fig. 103. Stibbe 1992, 48f., 61 no. N5. Here fig. 4.
- 86 Handle of an amphora type Nn. Belgrade, National Museum 183/I(?). Provenance: Trebenische, tomb VIII. N. Vulic, *ÖJH* 27 (1932) 27f. fig. 40. Stibbe 1994b, 101 no. 6. Here fig. 4.
- 87 Amphora type Nn. Paestum, Museo Nazionale Archeologico. Provenance: Paestum, Heroon. Rolley 1982, 21f., no. 8, fig. 82. Stibbe 1992, 52, 61 no. Nn 4. Here fig. 4.
- 88 Handle of oinochoe. Zürich, Universität L. 200. Provenance: Armento (Basilicata). M. Sguaitamatti, H.-U. Niesen, *AntK* 25 (1982) pl. 16.
- 89 Amphora type Nn. Syracuse, Museo Regionale 21195. Provenance: Gela. Rolley 1982, fig. 122. Stibbe 1992, 52, 61 no. Nn 5 (bibl.). Here fig. 4.

##### Compare also

- VCa Attachment of cauldron. Olympia, Museum B 6272. Provenance: Olympia ("SO, Brunnen 46"). Gauer 1991, 45, 201 no. Le 196, pl. 30, 2.
- VCb Clay oinochoe. Zürich, Universität 4037. Provenance: unknown. M. Sguaitamatti, Eine lakonische Kanne des Jagd-Malers, in *Archäologische Sammlung der Universität Zürich* 17, 1991, 5-17. Stibbe 1994a, 116, 118, fig. 2.
- VCC Fragmentary handle of a blackglazed oinochoe. Samos, Museum store. Provenance: Samos, Heraion. C.M. Stibbe, Lakonische Keramik aus dem Heraion van Samos, *AM* (1997). Here fig. 18.

#### GROUP VI: CONCAVE PALMETTES AND VOLUTES

- 90 Fragment of oinochoe handle. Athens, National Museum 18574. Provenance: sanctuary of Apollo Hyperteleatas at Phoiniki (Laconia). P. Kalligas, *Lakonikai Spoudai* V (1980) 24, pl. 15 below right. Here fig. 19.





*Fig. 18. Cat. No. VCc: Samos, Museum, from Samos, Heraion*



*Fig. 19. Cat. No. 90: Athens, National Museum 18574, from Phoiniki, Laconia*



*Fig. 20. Cat. No. 92: New York, private collection.*



Fig. 21. Cat. No. VIb: Sparta, Museum 930, from Amyclae

- 91 Oinochoe. Sofia, National Museum. Provenance: Trebenischte, tomb I (?) Filow 1927, 59-61 no. 72, pl. X, 1. Weber 1983, 268f. no. I.D.1 (bibl.).  
 92 Hydria. New York, private collection. Unpublished. Here fig. 20.

Compare also

- VIa Fragment of crater support. Olympia, Museum 14051. Provenance: Olympia ("Südostbau"). Gauer 1991, 24, 254f. no. M24, pl. 66.  
 VIb Console capital. Sparta, Museum 930. Provenance: Amyklaion. E. Buschor, W. von Massow, *AM* 52 (1927) pl. XIX. Faustoferri 1996, pl. 1. Here fig. 21.

#### GROUP VII: CORINTHIAN IMITATIONS

- 93 Hydria. Athens, National Museum 18132. Provenance: Trikala. Rolley 1982, fig. 112. Stibbe 1992, 32-35, 57 no. H1 (bibl.). Here fig. 22.

- 94 Oinochoe. New York, ex Pommerance collection. Provenance: allegedly Sicily. Master Bronzes no. 77, frontispiece in colours. Weber 1983, 76, 270 no. I.D.2 (bibl.). Herfort-Koch 1986, 49 n. 181. Gauer 1991, 159.  
 95 Oinochoe. Paris, Petit Palais 1560. Provenance: Sala Consilina. Rolley 1982, 25. Weber 1983, 75, 276 no. I.D.9 (bibl.). Herfort-Koch 1986, 49 n. 181. Stibbe 1992, 32 n. 136.  
 96 Oinochoe. Basel, private collection. Provenance: unknown. Stibbe 1994a, 119, pl. 27, 5.7. Here fig. 4.  
 97 Beaked jug. Ioannina, Museum 2258. Provenance: Vitza. Vokotopoulou 1975, 167ff., pls. 3e, 4-7.  
 98 Beaked jug. Ioannina, Museum 2259. Provenance: Vitza. Vokotopoulou 1975, 167ff., pls. 8-12.  
 99 Handle of a hydria. Baltimore, The Walters Art Gallery 54.776. Provenance: unknown. Master Bronzes 78f. no. 73. Wallenstein 1971, 89f. no. VIII, 18, pl. 29, 1. Gauer 1991, 159.





Fig. 22. Cat. No. 63: Athens, National Museum 18132, from Trikala

- 100 Handle of a cauldron. Olympia, Museum B 4755. Provenance: Olympia ("Brunnen 28 StN"). Gauer 1991, 72, 237 no. P5, pl. 56, 1.
- 101 Handle of a hydria. Delphi, Museum. Provenance: Delphi. Rolley 1982, 26, fig. 120.
- 102 Hydria. Taranto, Museo Nazionale 134906. Provenance: a tomb at Ugento. Rolley 1982, 25f., figs. 113-118. Stibbe 1992, 10, 53 no. B8 (bibl.).
- 103 Handle of oinochoe. Lecce, Museo Provinciale. Provenance: unknown. G. delli Ponti, *I Bronzi del Museo Provinciale di Lecce* (1973) 42, no. 64, pl. 41.

#### ACKNOWLEDGEMENTS

It is with much pleasure that I express here my gratitude to those whose kind assistance has enabled me to prepare this text. In the first place Mr. Jan van den Born, a former colleague of mine, who translated part of it, corrected the rest and prepared it for printing. Then Mr. G. Strietman for making the major part of the palmette drawings

(figs. 1-4). The photographs are taken by the author, unless stated otherwise, as listed here:

- Fig. 5 courtesy of the Ulster Museum, Belfast.
- Fig. 7 courtesy of the Kunsthistorisches Museum, Vienna.
- Figs. 8-9 courtesy of the Staatliche Museen, Antikensammlung (I. Geske), Berlin.
- Fig. 10 after *ADelt* 17 (1961/2 - B1) 96, fig. 4.
- Fig. 11 courtesy of the Thorvaldsen Museum, Copenhagen.
- Fig. 12 courtesy of the Antikenmuseum Basel und Sammlung Ludwig (Claire Niggli).
- Figs. 14-15 courtesy of the Staatliche Museen, Antikensammlung (I. Geske), Berlin.
- Fig. 19 courtesy of the National Archaeological Museum, Athens.
- Fig. 21 courtesy Deutsches Archäologisches Institut, Athens.
- Fig. 22 courtesy of the National Archaeological Museum, Athens.

#### ABBREVIATIONS

- AO R.M. Dawkins i.a., The Sanctuary of Artemis Orthia at Sparta. *JHS* Suppl. 5, London, 1929.
- Diehl E., 1964 *Die Hydria*, Mainz.
- Faustoferri, A. 1996, *Il trono di Amyklai e Sparta. Bathykles al servizio del potere*, Napoli.
- Filow, B.D., 1927, *Die archaische Nekropole von Trebenische am Ochrida See*, Berlin und Leipzig.
- Gauer, W., 1991, *Die Bronzegefäße von Olympia I* (Olympische Forschungen XX), Berlin, New York.
- Herfort-Koch, M., 1986, *Archaische Bronzeplastik Lakoniens*, Münster.
- Johannowsky, W., 1980, Bronzi arcaici da Atena Lucana, *PP CXC*, 443-461.
- Kunze, E., 1950, *Archaische Schildbänder*, Berlin.
- LV, C.M. Stibbe, *Lakonische Vasenmaler des sechsten Jahrhunderts v. Chr.*, Amsterdam-London, 1972.
- Maass, M., 1979, *Griechische und römische Bronzewerke der Antikensammlungen*, München.
- Master Bronzes, D.G. Mitten, S.F. Doeringer, *Master Bronzes from the Classical World*, Mainz, 1967.
- Politis, L., 1936, Chalki Ydria ex Eretrias, *AE*, 147-173.
- Rolley, C., 1982, *Les vases de bronze de l'archaïsme récent en Grande Grèce*, Naples.
- Shefton, B.B., 1979, *Die "rhodischen" Bronzekannen* (Marburger Studien zur Vor- und Frühgeschichte, Band 2), Mainz.
- Stibbe, C.M., 1992, Archaic bronze hydriae, *BABesch* 67 (1992) 1-62.
- Stibbe, C.M., 1994a, Eine archaische Bronzekanne in Basel, *AntK* 37 (1994) 108-120.
- Stibbe, C.M., Between Babyka and Knakion, Three Addenda, *BABesch* 69 (1994) 63-102.
- Stibbe, C.M., 1995, Lakonische bronzene Hopliten, die erste Generation, *AntK* 38 (1995) 68-80.
- Stibbe, C.M., 1996, Frauen und Löwen, eine Untersuchung zu den Anfängen der Lakonischen Bronzeindustrie, *JbZMusMainz* 43 (1996) 357-383.
- Vokotopoulou, I., 1975, *Chalkai Korinthiourgeis Prochoi*, Athens.
- Wallenstein, K., 1971, *Korinthische Plastik des 7. und 6. Jahrhunderts v. Chr.*, Bonn.
- Weber, Th., 1983, *Bronzekannen*, Frankfurt am Main und Bern.

# Archaic Head in the Allard Pierson Museum

## A Problem of Style, Material and Authenticity

J.M. Hemelrijk

*Part of a statue or a high relief*  
*Allard Pierson Museum Inv. no. 9240*

From a private collection in Paris (Monserin, Antonovitch), acquired in 1975 as one of the gifts that marked the re-opening of the museum in the new building (formerly the National Bank of the Netherlands). Donated by the Prins Bernhard Foundation. Provenance unknown, but probably from Greece.

Limestone; max. H. 30.5 cm, max. W. 20.3 cm, D. 16.1 cm; estimated height from chin to crown of head (now lost) 30-31 cm; distance of exterior corners of eyes 13.3 cm, diameter of eye 4.7 cm, height of eye 2.1 cm, width of mouth 5.7 cm, distance chin-headband 24.8 cm; diam. forehead curls 3 cm; width of hairband 2.4 cm.

### MATERIAL

Porous limestone, with many holes in its surface caused by inclusions that have fallen out. The preserved finished surface warm cream-coloured: this colour is probably due to some modern treatment – perhaps with wax or a similar substance –, since the same warm colour is seen where the surface is damaged, such as on the tip of the chin. In the breaks the colour of the stone is varied and pale-greyish: see further *Preservation*. The limestone is described by Th.B. Roep and J. Smit of the Geological Institute of the University of Amsterdam as ‘creme, cerithium bearing calcarenite (probably medium to thickly bedded); it is miliolide bearing, quartz silty, pellet packstone’.

We had suggested that Central or Northern Greece might conceivably be its source, to which Prof Norman Herz of the Center of Archeological Sciences, University of Georgia, replied (letter 5-5-'86): “The geological map shows an extensive area of Neogene sediments from Larissa South to Volos and Almiros. Of course, using a map can only identify the different possibilities”. In a letter of 1-1-'94 Prof. M. Dermitzakis of the Geological section of the University of Athens writes: “The type and colour of the limestone reminds me of the limestone found in East Central Greece (Sterea)”. However, it appears

that comparable kinds of material occur all over Europe, and therefore its provenance cannot yet be discovered.

For the appearance of this miliolide-containing pellet packstone see Figs. 1c-e<sup>1</sup>. Thomas Roep explains Fig. 1c as follows: A = Miliolides (0.8 mm); B = calcined pellets formed from excrements of worms; C = very tiny bits of quartz, called ‘silt’.

It contains countless inclusions consisting in specimens of the gastropode *Cerithium* (Fig. 1e), snail shells which may be more than 2 cm long; some of these have caused smaller and larger holes where they have fallen out. Larger holes – apart from numerous such holes in the breaks – are found above the left eye, in the curl next to the middle of the forehead, in the nose, a deep, narrow one under the chin, on top of the head etc. See especially the impression embedded in the surface between the second and third curl and the head band above the left temple (Fig. 1d, a cast of which is shown in Fig. 1e)<sup>2</sup>.

### PRESERVATION

Broken off above the root of the neck; greater part of the surface of this break roughly flattened with a drove chisel (Fig. 1n; ca. 1.3 cm wide; six long grooves still visible). Top of head broken off, its horizontal upper surface also roughly flattened with this drove (Fig. 1m); back of head broken off vertically (Fig. 1i; unworked, yet flattish); rough breaks on right (Fig. 1g) and left side, carrying off the first spiral curl above left temple (Fig. 1h), most of the skull and the hair, except part of a lock falling along the neck on either side (Fig. 1a-b); also lost are both ears except the lobe and *tragus* of the right ear (Fig. 1f-g). Nose badly damaged, chin and lips slightly. Remaining surface rather well-preserved.

<sup>1</sup> See M.J. Cock Escher in *MVVAPM* 29, 1983, 14-5, figs. 2-4.

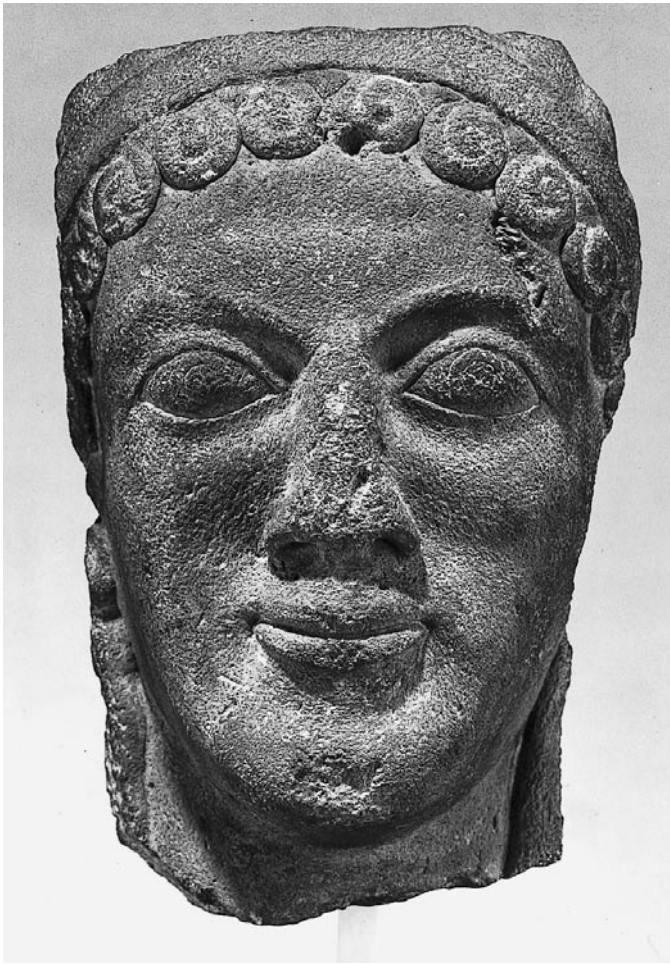
<sup>2</sup> A deep narrow hole in the top of the head, 2.5 cm behind the headband, straight above the nose, has been explained as a trace of a *meniscus*, but the spiral marks inside it show that it was caused by a shell and, besides, its position is not perpendicular but slanting.





*Fig. 1a. Front view. Photographs of Fig. 1 are by M. Bootsman (except Fig. 1c-e and 1l-n)*

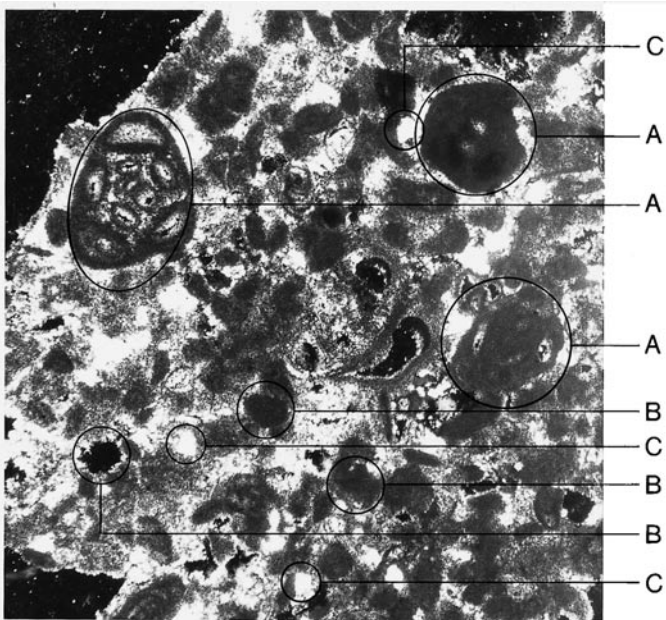




*Fig. 1b. Front view in strong lighting*



*Fig. 1d. Detail showing holes from shells*



*Fig. 1c. Thin-section of limestone*



*Fig. 1e. Cast of impression of shell, see 1d*





*Fig. 1f. Three-quarter view*

#### TECHNIQUE

The stone is very porous; the entire statue must once have been stuccoed and painted, but only very slight, and perhaps doubtful, traces of stucco are now to be seen. This is important for our judgement of the authenticity of the piece: in places where the surface was protected from corrosion (in the sharply

cut contours of the spiral curls and along the tresses falling along the neck) the surface is visibly less porous, 'closed', as it were, by some such material (not visible on photographs); this can hardly be understood except as rudimentary traces of ancient stucco.

There is no sign of the use of a drill, not even in the nostrils and ear. The flat chisel must have been used



Fig. 1g. Right-hand profile



Fig. 1h. Left-hand profile

with restraint, witness the fine edges of the eyes, the delicate cleft between the lips, the sharp separation of the curls from the forehead etc. A cutting-compass was used to outline the irises and pupils, Fig. 1a and d (the central point is just visible).

#### DESCRIPTION

This head is of an uncompromising monumentality and larger than lifesize: about  $5/4$ . It cannot be made out whether it formed part of a very deeply carved high relief or of a freestanding piece of sculpture (but perhaps the former, as we shall see, may seem more likely). At present it is mounted in too vertical a position; the neck (in profile) should lean forward a little.

The most striking feature is the flatness of the piece which comes out especially when seen from below (Fig. 1l): the front and sides of the face preserve the block-shape which guided the sculptor during his work: the transitions between them are abrupt; the

eyes are carved in the frontal plane. For the slope of the forehead see Figs. 1g-h.

The general shape of the head is as follows. Seen frontally (Figs. 1a-b), the contours of the face, from the temples downwards to the chin, form the lower part of a narrowish oval, enclosed above by the full curve of a hairband and a string of spiral curls. Note that in this facial oval there is no (or, at least, very little) indication of the angles of the jaws (*anguli mandibulae*): the contour is, as it were, 'jaw-less', 'abstract' (but in profile view the *angulus mandibulae* of the right jaw is indicated; Figs. 1f-g).

Above the fillet the skull seems to have had the normal shape, if we may judge from the course of the wavy hair tresses (Fig. 1h).

When seen in strict profile (compare Figs. 1g-h, which were taken from a viewpoint just a little too far to the rear), it is clear that the artist did not dare to penetrate deep enough into the stone: he carved the eyes too much in the foreground and then cut the stone away below them, at either side of the nose. Consequently, the nose (now broken) seems

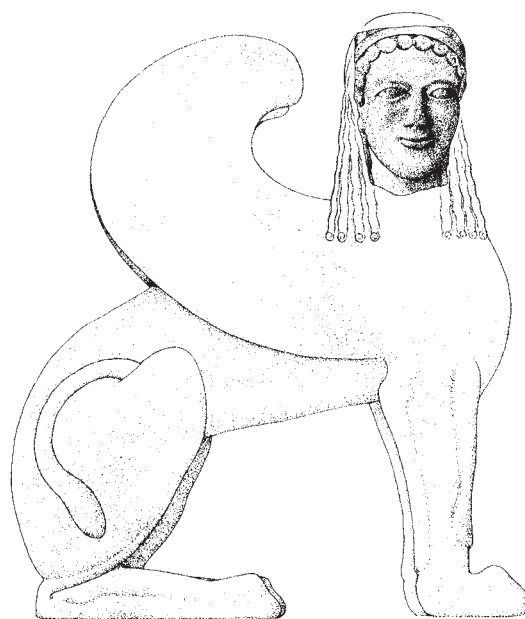




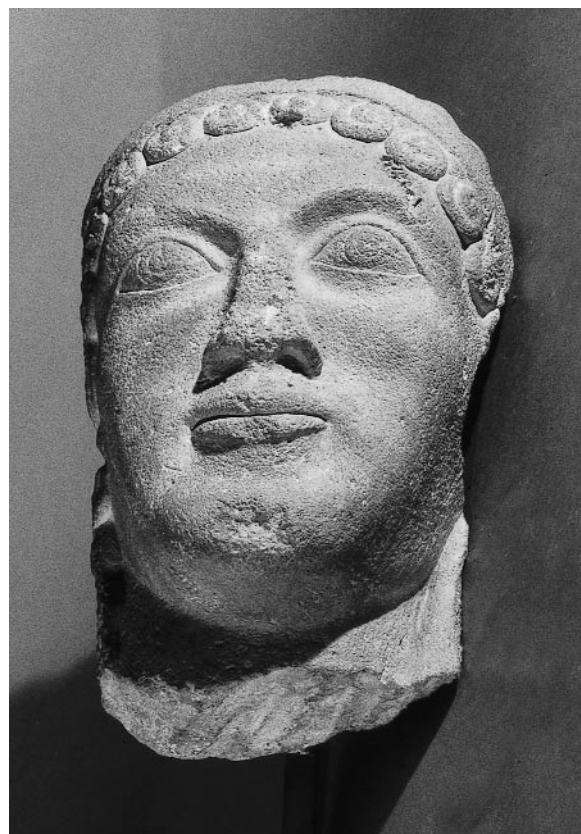
*Fig. 1i. Reverse*



*Fig. 1k. Reconstruction of profile*



*Fig. 1j. Reconstruction as a sphinx (drawing Jaap Morel)*



*Fig. 1l. View from below*

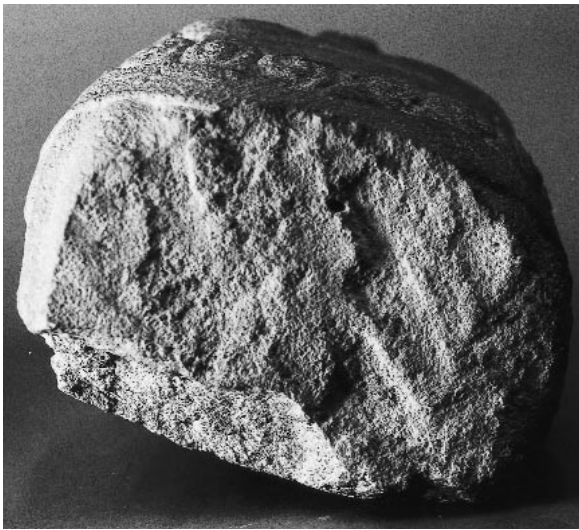


Fig. 1m. Surface on top of head



Fig. 1n. Traces of drove on underside of neck

pushed a little into the face. In other words, the area between eyes and chin is not sufficiently developed in space and unnaturally flat, the cheekbones are high up and shallow (though sufficiently rounded, Fig. 1l), the mouth is protruding in this area and the chin, for which there was plenty of room in the stone, sticks out under it.

As for the original profile-shape of the nose it can just be made out from Fig. 1g-h that its outline formed an angle, though only a very slight one, with the line of the forehead, protruding a little, but not as much, for example, as that of the Piraeus kouros (Fig. 7b) but more like Acr. 654 (Fig. 2b) and the Tenea kouros (Fig. 4, whose nose is exceedingly pointed and straight below), but perhaps less than that of the Milani kouros (Fig. 6b, which is perhaps restored a little too sharply) and the relief of the discus thrower in Athens; contrast the Thasos kouros (Fig. 3b) whose nose continues the slope of the forehead and, nearly so, the Thera kouros (Fig. 5)<sup>3</sup>; thus, we might restore the nose as shown in Fig. 1k.

Measured from the facial plane backwards (and from the chin to the neck), the head seems to have been a little shallow and the distance from cheekbones to ears is relatively short (compare Figs. 2-6); together with the remarkable flatness of the face (Fig. 1l), this is perhaps an indication that it may stem from a deeply cut relief rather than from a statue in the round.

There is a marked lack of symmetry in the face and the neck (Figs. 1a-b). This indicates, as we shall see, that the head was turned to its right.

So much for the general shape. Let us now turn to the individual features.

The eyes are rather large and bulging, protruding even beyond the cheekbones (Figs. 1d,g-h,l)! They are looking straight ahead (not downwards); the eyeballs are strongly rounded, also shaping the upper eyelid, which results in a marked depression between the upper eyelids and the brows. If the face was meant to be seen frontally, as seems likely, the lack of depth in the modelling must have remained unnoticed.

The shape of the eyes is a pointed oval, the lower lids less curving than the upper ones. Curiously, the outer corners seem to be at a slightly lower level than the inner ones and the edges of the upper eyelids continue beyond the outer corners of the eyes for about 1 cm in very shallow relief as a slanting elevation or ridge (Figs. 1d,f-h). The inner recesses are not indicated but there is a slight 'pinching' of the corner. The irises and pupils are incised as circles (Fig. 1a-b,d) and do not touch the eyelids; this makes the eyes seem wide open and staring (painting on the eyes and eyelids must have softened this effect)<sup>4</sup>. Very remarkable is that these irises are clearly, though only very slightly, raised in relief (Fig. 1a,b,d); this is probably original (see below) but may conceivably be due to the protecting layer of paint-on-stucco once covering the area, being

<sup>3</sup> Relief of the discus thrower Ath. NM38, Boardman, fig. 117. The differences are subtle; there is, for example, a slight angle between nose and forehead in the N. York kouros; contrast the nearly straight outline of the profile in the Berlin and Peplos korai: Boardman, figs. 63, 108, 115.

<sup>4</sup> See, e.g., old photographs of the Peplos Kore, J. Charbonneau, *La sculpture grecque archaïque* pl. 27, or Payne, pl. 33; compare CMV, figs. 119, 284, 313-6.





Fig. 2a. Acropolis 654, after Payne, Young, pl. 11,1

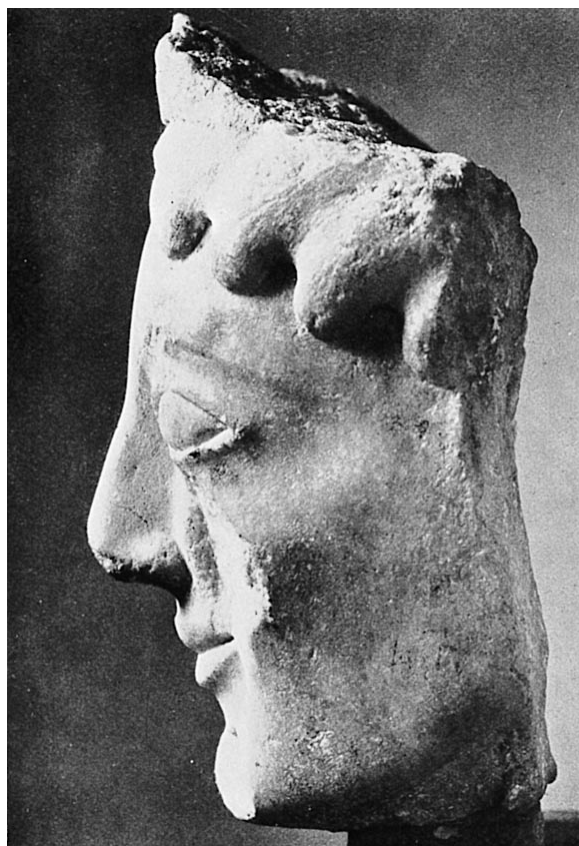


Fig. 2b. Acropolis 654, after Payne, Young, pl. 11,4

somewhat thicker here than on the balls of the eyes. The long, curved, eyebrows, which start right at the root of the nose, are indicated by ridges in relief. An unusual detail is the shallow horizontal groove in the forehead.

The nose, badly damaged, was short compared to the lower part of the face; it was broad and may originally have projected as in the drawing of Fig. 1k. The nostrils are remarkably wide and seem dilated: as preserved they are not round but triangular (Fig. 1l).

The distance between nose and mouth is short; the vertical central groove in the upper lip is hardly indicated but can be felt with the fingertip as a slight depression. The mouth is small and moderately curved; the fine deep groove between the lips forms a shallow curve, resulting in a subdued 'Archaic smile'. The edge of the upper lip is not clearly marked (slightly damaged). The lower lip, damaged in the middle, is as long as the upper one but fuller and outlined by an edge with a marked hollow below, making it rather conspicuous and suggesting,

in front view, that it is somewhat pouting (but contrast Figs. 1g-h). There is only a slight indication of the contraction of the muscles at the corners of the mouth and only a light depression.

The chin is long and its (lightly damaged, Fig. 1l) tip protruding, but its distance from the neck is short (compare Fig. 1g-h to Figs. 3-5). The cheekbones are formed by a shallow rising of the surface; as has been pointed out, they are too high up; though shallow, they are more than sufficiently marked (as appears in strong lighting, Fig. 1b and l).

Forehead and temples are bordered by a row of, originally twelve, spiral curls held together by a headband, six at either side of a parting, coiled symmetrically outwards (towards the ears; two windings; the curl above the left temple is lost, Fig. 1h). Enclosed between them, against the headband, there are small triangles (carved in softly swelling relief, Fig. 1d). These represent the beginning of the long locks that are combed backwards over the head (after passing under the headband), while the spiral curls are meant to depict their short loose ends. The





Fig. 3a. *Thasos kouros*, after *Kouroi*, 1st ed., fig. 268



Fig. 3b. *Thasos kouros*, after *Kouroi*, 1st ed., fig. 267

tresses on the skull, behind the hairband (see Fig. 1d and h), were not indicated as well-marked separate locks but form an undulating surface of softly raised, broad ribs (3 cm wide), running parallel over the head (compare Fig. 4, the Tenea kouros, where they are more horizontal); parts of only five of these shallow ribs remain).

The right ear (Fig. 1g) is partly preserved and seems to have been large; it was set at its proper level; the large, softly modelled (delicately concave) lobe and the finely shaped *tragus* are carved in different planes. The temples are indicated by an almost imperceptible sinking of the surface in relation to the jaws.

On both sides of the neck we see the vertical edge of the hair hanging down from under the ears in waves (each 'wave' ca 3.5 cm long), and originally falling over the chest. It is not clear whether we see the inner part of a narrow wavy tress, as is suggested

by the reconstruction in Fig. 1j, or if the tress was not wavy but provided with swellings (or elongated globules, compare the Piraeus kouros, Fig. 7) – as will appear to be more likely – or if it was perhaps an undulating mass of hair not divided vertically, as in the Tenea kouros (Fig. 4, compare Fig. 3)<sup>5</sup>.

As has been noted, the face and neck are strongly asymmetrical: seen frontally, the right cheekbone recedes as regards the left cheekbone, and the right one differs from the left one, being less pronounced and flatter (Fig. 1f-h); the surface of the left jaw is more rounded and convex, and the right corner of the mouth seems somewhat pulled up compared to the left one, as if smiling more openly (Fig. 1g-h); the right-hand side of the face is narrower and perceptibly concave at the temple and lower down

<sup>5</sup> Boardman, fig. 121, but such hair does not fall over the chest.



Fig. 4. *Tenea kouros*, after *Kouroi*, 1st ed., fig. 189



Fig. 5. *Thera kouros*, after *Kouroi*, 1st ed., fig. 138

(Figs. 1g-h). The neck is comparatively undeveloped and undetailed but, low down on its proper right side its surface is a little raised, indicating the attachment of the contracted right neck muscle (*sternomastoid*). Besides, the tress of hair under the left ear fell further forward than that on the right side of the neck. All this shows how attentively the sculptor observed the changes that take place when a head is turned to its proper right.

This description should not end without a word about the manner of carving. Though the head is very 'flat-faced' preserving the block-like form more emphatically than is common in early and middle Archaic work (Fig. 11), there is a fine continuous sinking and rising of surfaces within the major forms, there are no harsh, flat areas nor sharp ridges, all details are modelled with a constant awareness of the roundness and *turgor* noticeable in the slightest details of living anatomy; note, for example, the roundness of the lips, the attachment of the upper lip to the nose, the earlobe, the eyelids,

the spiral curls, and also the undulating surface of the hair above the hairband (Fig. 1h), a part that was hardly meant to be seen. Besides, the deviations from the purely frontal orientation are subtly executed in all parts of the face, the right-hand half receding and the subtly-carved concave surface of the right side of the face contrasting delicately with the slightly convex left part. In short, the head impresses as a both powerful and sensitive creation. Its high quality cannot be brought out by photographs but may be gathered from the contrast between the two photographs of its frontal view made in sharp and in subdued lighting, Fig. 1a and b.

#### DISCUSSION

When, in 1975, we considered the acquisition of this head, we had several reasons to feel uneasy about its authenticity:





Fig. 6. 'Milani' kouros (Florence), after Ant. Pl. III pl. 42



Fig. 6b. 'Milani' kouros, after *Kouroi*, fig. 243

1. Archaic Greek sculpture is only very rarely for sale.
2. Though the head was in Paris, the Louvre had not made use of its right to buy it.
3. The kind of limestone with its large flaws seemed surprising.
4. The style seemed unusual: the face being very flat, it looked familiar but could not easily be defined with precision.

Besides, since then, we have noticed that the condition of the breaks on the top of the head and under the bottom of the neck is unusual: these surfaces have been roughly fashioned and flattened with a broad chisel (Figs. 1m-n).

In the following it will be seen that, in spite of some oddities, the style and technical execution are such that they establish its authenticity to a high degree of certainty and with considerable persuasive power.

#### PECULIARITIES

First the material: limestone used for sculpture is often of better quality<sup>6</sup>. However, there are many Archaic examples that approximate the stone of our head. For example, a small kore head in Boston, and a head from Axos, Crete, both half life-size, are made of limestone that seems comparably coarse<sup>7</sup>. The Corfu gable, which, as we shall see, is of importance for the interpretation of our head, is of a homogeneous fine, yellowish-grey lime-sandstone<sup>8</sup>, though some "*Schalenreste*" are found in it: e.g., in the nose of one of the huge panthers such a "*fossiles Schalenfragment*" is "*herausgefallen*".

<sup>6</sup> See Adams, p. 134-5 for Crete, Boiotia and other sculpture and, for example, *Kouroi*, nos. 10-11; compare Ducat, nos. 107-16.

<sup>7</sup> The Boston head is said to be from Sicyon (*Korai*, figs. 301-3), but regarded as Cypriot by Marcadé and Floren, see Ridgway 1993, n. 4. 13 (p. 157), which seems unjustified. The Axos head may be part of a relief: Adams, p. 80-1, pls. 19-20.

<sup>8</sup> As described by Rodenwaldt, p. 9-10.

Elsewhere in Corfu, in the Kanakades quarries, the limestone is much coarser (but not used for sculpture) containing “*Fossilanhäufungen mit zahlreichen marinen Bivalven und Gastropodenarten*”<sup>9</sup>. Similar material is found elsewhere in Archaic Greece<sup>10</sup>, and very coarse limestone was used in Sicily and Italy, not only for architecture<sup>11</sup> but also in sculpture, for example, in the very fine Severe Style lion-spouts of the temple at Himera<sup>12</sup>. In short, the coarse limestone of our head is surely less surprising than it seemed at first sight.

Then there are the traces of a broad flat chisel on the upper and lower surfaces mentioned above (on top of the head and under the neck, see Fig. 1m-n); unusual as these may be, they surely are the result of a modern attempt to improve the appearance of the piece by cutting away some of the rough protuberances caused by the way in which the head was broken. Other details that struck us initially as unusual appeared to be not at all exceptional, especially in early limestone sculptures. Thus, the ridged eyebrows are very common; to mention only some examples: the Boston and Axos heads just mentioned, the ‘hydrophore’ of the Olive Tree pediment and Zeus of the Introduction gable on the Acropolis, the ‘Hera’ head in Olympia (Fig. 9), Medusa and Chrysaor of the Corfu gable (Fig. 10) etc. Besides, it is also found in marble and bronze, for example on Cleobis (Fig. 8), the Piraeus kouros (Fig. 7) and the fine bronze head with helmet in Athens<sup>13</sup>.

The outer corners of the eyes of the Olympian ‘Hera’ head (Fig. 9) are set somewhat lower than the inner corners, like those of the eyes of our head; this may be rare in Archaic heads from Greece itself, but is not very uncommon, it seems, in more or less provincial work<sup>14</sup>. Naturally, observed from a low viewpoint, such a deviation would be imperceptible.

The incised iris and pupil are also common in limestone sculpture and may, as on our head, be in (very slight) relief. In the eyes of Chrysaor and Gorgo in Corfu the incised iris is “*an der Innenseite von einem leicht erhöhten Wulst begleitet*” and “*zur Unterstützung der Bemalung des Augapfels diente eine in leichtem Relief ausgeführte Gliederung*”<sup>15</sup>. Lightly incised irises and pupils are also found in marble heads, e.g., the so-called Milani kouros (Fig. 6), sphinxes etc.<sup>16</sup>.

For the high position and shallowness of the cheekbones above a somewhat concave area at either side of the nose, it is hard to find close parallels, but a similar curious treatment and, so to speak, underdevelopment of this area is to be seen in the – equally puzzling – Piraeus kouros, Fig. 7b<sup>17</sup> (note also his mouth, Fig. 7a) and, e.g., the Milani kouros, Fig. 6b. It seems, at least in our head, a sign of uncertainty

on the part of the sculptor as regards his ability of penetrating deep into the stone. A related technical curiosity is pointed out by Ridgway in connection with sculptures often regarded as works by the Rampin Master, the Peplos kore and – similar in the treatment of the eyes and cheekbones of our head –

<sup>9</sup> See Rodenwaldt, *l.c.* and p. 126 ff with figs.

<sup>10</sup> For much information on limestone sculpture see Adams. It does not yet seem to be possible to locate the different types of limestone from Greece with precision. For coarse material see Heberdey, p. 183-4, where similar inclusions of shells in limestone from the Piraeus are described, while on p. 10 we read that four of the slabs of the gable with Heracles and Hydra are full of holes and shells, while the fifth is of compact and even structure (for a good colour photograph showing the defects of the stone see *CMV*, fig. 216). The same coarse material was used for the gable fragment with a Bacchic Dance from the Acropolis, see Heberdey, p. 75 (Boardman, fig. 201). This material, because of the way in which it was cut and worked, must have been softer than that of our head, which has clearly been worked with the precision tools used for marble (see *Technique*, above). The limestone of Corinth is soft and whitish, see Adams, p. 128; very fine limestone seems to be that of the sphinxes *AGA*, nos. 14-5, figs. 46-53. The ‘Hera’ head in Olympia is of very hard bluish limestone (Adams, p. 135 and Casson, p. 104). For the limestone used at Ptoion, see Ducat, p. 452 f, who suggests that for kouros poros may not have been strong enough and was felt to be not very dependable.

Archaic architectural sculpture in Italy and Sicily is of limestone, see next note. Anyway, the use of coarse, sometimes very coarse limestone is not at all exceptional: it was regularly used in Roman provinces, wherever marble or fine limestone was lacking, for example in the region of Luxemburg, where the stone is often full of shells.

<sup>11</sup> See Tusa, pls. 2-12; the appearance of this building material is truly distressing.

<sup>12</sup> Langlotz, pls. 77-9, and the metopes of temple E, Selinus, pls. 100-7; Tusa, pls. 11 ff. etc.; see also the surprising mother with twelve children from Capua (of a much later date) Langlotz, pl. 168; further, Ross Holloway, figs. 170-2.

<sup>13</sup> *Korai*, nos. 44, 36; *Id.*, *Kouroi*, fig. 91; Rodenwaldt, pls. 5 and 15 ff; Heberdey, p. 33 speaking of Zeus’ brows (“Introduction” gable); Boardman, figs. 194 and 198 and, Cleobis, fig. 70; and, later, the marble mask from Marathon, fig. 171; the two bronzes: figs. 150, 207. Further, of course, it is not uncommon in terracotta, e.g., Langlotz, pls. 38, 57.

<sup>14</sup> E.g., in the Western Greek world: see Ross Holloway, figs. 57, 65, 100, 142, 145, 165 etc. and Langlotz, pls. 57, 62.

<sup>15</sup> Rodenwaldt, p. 34 and 52, also on the great panthers, p. 71 fig. 60. Heberdey, p. 33, speaking of the head of Zeus of the Introduction gable: “*Die Iris erscheint als leise erhabene Kreisfläche, die Pupille ist plastisch nicht angegeben, die Brauen sind in schwachem Relief ausgeführt und schwarz bemalt*”. For a good view of the eyes of the ‘Hera’ head from Olympia, see Boardman, fig. 73. According to Adam, p. 83, the latest example of the use of the compass for incising the irises is the Anavysos kouros.

<sup>16</sup> Milani kouros: *Antike Plastik* iii, 1964, pl. 42; Boardman, fig. 105; *Kouroi*, no. 70, figs. 239-244. See also Boardman, figs. 226-7.

<sup>17</sup> Boardman, fig. 150 (dated 530-520; good profile photo); *Kouroi*, no. 159 bis figs. 478-80; Robertson, p. 182; Fuchs, figs. 25-6; Ridgway 1993, p. 87 and n. 3. 62, see below. A similar profile is the kouros Thebes no. 3, from Ptoion, Ducat, no. 157, pls. 85-6, *Kouroi*, figs. 304-5 and note the high placement of the ear.





Fig. 7a. Piraeus kouros, after AKGP, pl. 78.2



Fig. 7b. Piraeus kouros, after AKGP, pl. 78.1

Acr. 654 (which is to be regarded as the head of a sphinx, being asymmetrical; Fig. 2)<sup>18</sup>: she speaks of the ‘pinched cheek’ effect produced by “what can be called ‘negative carving’...”; “in an Attic desire to articulate the face, sculptors hollow out circular areas around eyes and mouth, so that cheeks and chin project not of their own accord, but because they are like islands emerging from the surrounding low waters”. This method, she adds, disappears gradually. Though her description does not entirely fit our head, it is clearly relevant as a point of technique. The profile of Acr. 654 (here Fig. 2b), dated 560-550 by Boardman, is certainly useful as a comparison: the eyes are bulging and staring straight ahead, projecting beyond the vertical of the cheekbones, while the chin juts out powerfully; compare the Tenea and ‘Milani’ kouroi (Figs. 4 and 6b). The narrowish oval contour of our head (‘jawless’, as it were, when seen frontally; see *Description*) is common before the middle of the sixth century in many areas and subsequently seems a feature charac-

teristic of certain regions. It will be discussed below. So much for most of the details in the face that struck us at first sight as uncommon; only the furrow in the forehead and the continuation of the upper eyelids towards the temples remain unparallelled. As regards the latter, this detail, which reminded us of Egyptian art, may have escaped us in other pieces being nearly invisible; it looks like an exaggerated (*i.e.*, drawn out in length), very early and probably unique forerunner of the much later discovery that the upper eyelid overlaps the lower one at the outer corner of the eye.

The furrow in the forehead is also highly exceptional and possibly unique; it should have a certain meaning, probably indicating violent action or emotion, or expressing a menacing intention. Wrinkles in the forehead indicating fear or great emotion may still, to our present knowledge, be absent from

<sup>18</sup> Boardman, figs. 115-6; Payne, pl. 11; *Korai*, no. 65, Ridgway 1993, p. 147 and n. 4. 65.





Fig. 8a. Cleobis, after Hampe, Simon, fig. 469

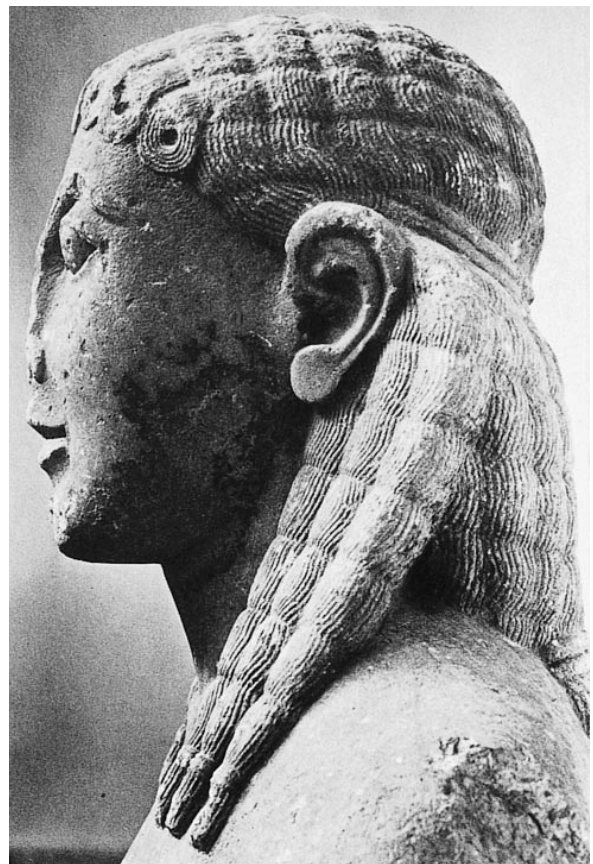


Fig. 8b. Cleobis, after Hampe, Simon, fig. 467

sculpture in this period, they were clearly not unknown in monumental painting, since they appear even in the miniature paintings on vases: on the François vase is Priam watching how Achilles is chasing Troilos, when he is on the point of being killed himself on the altar, as painted by Lydos, and on the famous vase by Exekias depicting Ajax preparing his suicide<sup>19</sup>.

This brings us to the question of the gender of the head, about which, one may feel, there cannot be very much doubt; the powerful modelling, the emphasis on the bony structure of the face, and the lack of tenderness in the carving (though the modelling is sensitive) seem to denote a young man, as is also suggested by the spiral curls on the forehead. These, appearing from under a headband, are a very old tradition starting in the seventh century. In the sixth century they are far more common on male heads than on female ones but they are still incidentally worn in the sixth century by females (see Fig. 11, a head from Laganello)<sup>20</sup>. They are often

wound inwards, but also pointing outwards, as on our head. The triangular interstices between the spiral curls and the headband, forming the beginnings of the tresses that are combed over the top of the

<sup>19</sup> Compare, however, the eyebrows of the Corfu-Gorgo, Rodenwaldt, p. 33 and fig. 17: the eyebrows are double with a deep furrow in between (possibly once painted blue!). Of course forehead-furrows are sometimes indicated in other heads of Medusa and also of satyrs. For Priamus on the François vase and by Lydos, and Ajax's suicide see *CMV*, figs. 68, 73, 112, and compare figs. 380, 393-4. Wrinkles in the forehead are common in the work of the Busiris painter of the Caeretan hydria, but these are some forty years later than our head.

<sup>20</sup> Female examples, e.g., the Laganello head, *Korai*, figs. 135-8 (see below), the Axos head (n. 5 above); Boardman, figs. 27, 28, 35, 36, 39 and Fuchs, fig. 639; Langlotz, colour plate vi (terracotta head of a sphinx?) and pl. 29 (also the relief from Caltagirone, pl. 13, about 590-80 B.C.) and further pls. 2-5, 13. See also a curious marble head of a sphinx in Mariemont: *AGA* no. 18, fig. 60-2, dated about 550. Male examples are too common to enumerate but we may mention Cleobis (here Fig. 8), Boardman, fig. 70, and Zeus and Chrysaor of the Corfu pediment (*ibid.* fig. 187, here Fig. 10).



Fig. 9a. 'Hera' in Olympia, after Korai, fig. 118



Fig. 9b. 'Hera' in Olympia, after Korai, fig. 120

head, are sometimes ignored<sup>21</sup>; which illustrates the precision with which our head was carved.

Here we may insert a few remarks about the rendering of the rest of the coiffure of our head. The smooth, wavy treatment of the hair on top of the skull is not very common and is reminiscent of certain terracotta work, such as a head of a sphinx (?) in Agrigento of about 550 B.C.<sup>22</sup>; Langlotz says about this rendering: "*Ringellocken überwölben die Stirn, ihre Wellung scheint sich nach rückwärts fortzusetzen, was im Mutterland im 6. Jh. v. Chr. nicht mehr üblich ist*". The arrangement of the hair on top of the head of the Tenea kouros (Fig. 4) may be compared and perhaps that of the Thasos kouros (Fig. 3); both are roughly contemporary with our head and also provided with shallow cheekbones<sup>23</sup>. Wavy hair surfaces on the cranial calotte are usually enlivened by horizontal striations, i.e. crossed by transversal grooves which produce a kind of grid

or more or less rectangular, sketchy globules (e.g., Cleobis, Fig. 8b). This is found even on pedimental sculpture such as Chrysaor of the Corfu gable, where it could hardly be seen by the ancient spectator (Fig. 10b; not, however, on Zeus and his giant<sup>24</sup>). Often this horizontal striation is subdued and shallow, and sometimes there are only uninterrupted (vertical or horizontal) waves (without striation), as on the Tenea (Fig. 4) and Anavysos kouros on which the separate strands of hair may have been

<sup>21</sup> No clear interstices: e.g., the Thera and Milani kouros (Figs. 5-6), Boardman, fig. 101; *Kouros*, figs. 182-3, 243-4, 303, 325, 399.

<sup>22</sup> Langlotz, colour plate vi (and p. 64), which shows a very similar arrangement; about 550 B.C.

<sup>23</sup> The hair on top of the head is not clearly visible in the publications of the Thasos kouros (here Fig. 3): *Kouros*, no. 109, figs. 328-9; *ÖJh* 11, 1908, pls. i-ii, p. 142 ff., figs. 36-40.

<sup>24</sup> Rodenwaldt, p. 95, fig. 81.



indicated in painting – as must have been the case in much limestone work, where an undulating surface is common<sup>25</sup>.

The wavy edge of the hair at either side of the neck is problematic: so little is preserved of these ‘waves’ that it is not quite clear whether the hair was carved in separate tresses with intermittent swellings (a kind of elongated globules) such as those of sphinxes in Athens, NM 2891<sup>26</sup> – and Cyrene (Fig. 13)<sup>27</sup>, and, more vaguely, of the Piraeus kouros (Fig. 7) –, or perhaps in some other form: as ‘wavy’ tresses (see the first reconstruction of our head, Fig. 1j); but it probably did not form part of an undulating mass of hair as on the Tenea kouros (Fig. 4), or the sphinx London B473<sup>28</sup>. The hairstyle of the elongated globules of the Athenian sphinx NM 2891 is the most probable reconstruction<sup>29</sup>.

On our head the hair fell on the shoulders and chest, as is common on korai and on sphinxes – and not only on the back as, after 600 BC, is usual in kouros<sup>30</sup>. In male statues this, according to Ridgway, may indicate that the figure is no common mortal but a hero or god or, at least, that the statue is narrative<sup>31</sup>: examples of such ‘narrative’ kouros-like sculptures are Cleobis (Fig. 8) with his brother and, we take it, the Moschophoros, while the Piraeus ‘kouros’ (Fig. 7) is a specimen of the ‘mythological’ type, representing Apollo<sup>32</sup>. As we shall see, our sculpture, if not representing a sphinx, may also have been ‘narrative’.

So much for remarks on the peculiarities of the head and its hair.

#### STYLE AND DATE

Now we come to the most important question, that of its stylistic character – or rather the artistic tradition from which it sprang and, implicitly, to the establishment of its authenticity. This, as we shall see, is a far harder problem, though in general terms the head fits well into the overall development of Archaic sculpture.

When we saw the head for the first time, on a (rather bad) photograph, it reminded us of Cypriot sculpture; however, the limestone appeared to be wholly different and so is the style which displays the typically Greek sense of, and concentration on, structure, facial muscles and the underlying bones.

Then, still judging from the same photograph, we took it for the head of a kouros; but when we came face to face with it, it showed its strong asymmetry and right-ward turn. This deviation from what was expected (a kouros head), together with the power and surprising refinement of the carving – which had not appeared from the photograph – convinced

us of its authenticity: clearly, it should either belong to a statue, conceivably a sphinx, or be part of a (very large) relief sculpture, probably a pedimental group. Naturally, we were reminded of Chrysaor of the Corfu pediment and thought of Perseus in the act of cutting off the head of Medusa – but the latter should, we realized later, wear the cap of Hades<sup>33</sup>. As we have seen, the head looks male, that of a young beardless hero in action (as is indicated by the furrow in his forehead). However, at first we did not dare to consider such an assumption since it would make the head into an almost wholly unique piece (a monumental statue or pedimental relief); therefore, we preferred to regard it as part of a rather more common class of monuments, of somewhat

<sup>25</sup> Boardman, figs. 107, 121; compare *Kouroi*, figs. 182, 215-6, 227, 246, 400 and 433. Compare also the simple treatment found on female heads such as *Korai*, figs. 139 ff., 275 ff. or above the stephane of korai: figs. 342, 455 etc. Boardman, figs. 108, 110 (Lyon kore), 116 (here Fig. 3), 131, 227 (Spata sphinx) etc.; all once made more detailed by painting; and, for limestone, e.g., the reliefs of temple C of Selinunte, Langlotz, pls. 14-5; Fuchs, figs. 451-2; Tusa, pls. 5-7.

<sup>26</sup> AGA, no. 16, figs. 54-7, four tresses on either side.

<sup>27</sup> Ridgway, fig. 46; see below.

<sup>28</sup> AGA, no. 17 figs. 58-9, 63.

<sup>29</sup> At any rate, softly waving vertical tresses hanging down over the chest are very rare at the time of our head, though perhaps such a stylization was more attractive for carving in limestone or sandstone, in which the sharply defined stylizations used in marble may have been harder to produce; compare, e.g., the, wavy, though much shorter tresses of the limestone heads of ‘Bluebeard’ of the great gable on the Acropolis and the softer, clay-like tresses of the running girls of the metopes of the Heraion at the mouth of the Sele: Boardman, fig. 193; better pictures of Bluebeard in W.H. Schuchhardt, *Archaische Plastik der Griechen* (1957) pl. 13 and J. Charbonneaux, *La Sculpture Grecque Archaïque*, pl. 22; long, soft rolls of hair on the fleeing girls of the mouth of the Sele: Langlotz, pl. 9; Ross Holloway, fig. 22. Wavy tresses composed of several thinner ones overlying each other are, of course, common in later Archaic work, e.g., peplos kore, Boardman, fig. 115; AGA, no. 37 figs. 96 ff.

<sup>30</sup> Though not in a number of statuettes of bronze and alabaster from Samos, Naxos, Naucratis, Delphi and Ptoon (*Kouroi*; nos. 22, 28, 43, 44, 51, 53(?), 59, 62, 82, 83, 106, 157 and compare the marble ones of nos. 18, 47, 69, 101).

<sup>31</sup> Ridgway, p. 70 (Cleobis), 74 (Moschophoros). On p. 61 she points out that “mythological figures in architectural sculpture are thus differentiated from common mortals and projected back into the conservative past”, which is of importance for the interpretation of our head. A similar remark is already made by W. Lermann, *Altgriechische Plastik*, 1907, p. 109 n. 2 (hair falling on the shoulders when in action or in a certain position): for examples Boardman, figs. 207a, 208, 2, 212, 213, 239; *Kouroi*, figs. 264 f. and 270 ff.

<sup>32</sup> Boardman, figs. 70, 112, 150. Ridgway, p. 74, does not believe that the hair is ‘divided’ (as she calls it, i.e. falling over chest and breast) but pushed forwards by the calf on his shoulders; the statue is a portrait of Rhombos in action bringing his offering to the goddess.

<sup>33</sup> The cap is always there, from a very early date onwards; e.g., a pithos and ivory relief from the seventh century, Fuchs, figs. 440-1.



Fig. 10a. Chrysaor, after Rodenwaldt, *Altdorische*, fig. 18

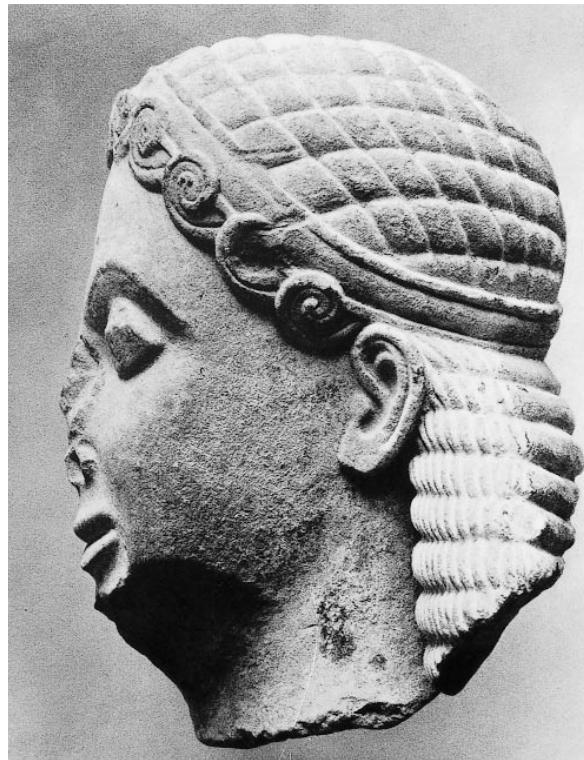


Fig. 10b. Chrysaor, after Rodenwaldt, *Altdorische*, fig. 19

ambiguous gender, a tall votive sphinx – an identification which, as we shall see, we have come to regard as unlikely now.

From the very first moment the powerful modelling of the head suggested some sort of relation with ‘Doric’ sculptures, such as Cleobis, the ‘Hera’ head and the Corfu gable (Figs. 8-10). And indeed, a comparison with these three may throw light on its peculiarities.

Let us first turn to Cleobis (Fig. 8), who is dated in the beginning of the sixth century by Richter, 580 by Boardman, while Ridgway remarks that the two brothers “seem early, but they may just be provincial”. Though I would prefer the date to be not later than 590 (because of the low forehead and other details), Ridgway’s suggestion should be considered: the eyeballs are remarkably rounded and the shape of the eyes is far from the stiff pointed oval of early kouroi; in fact, the inner recesses, the outer corners and the curve of the lower lids are further advanced than in our head, whose eyes are more staring. On the other hand, the face is very flat indeed<sup>34</sup>. However this may be, the differences are great, the main being the broadness of Cleobis’ face (compared to the more slender oval of our head) and the

simplicity and harshness of its details, such as the modelling of the mouth and the flesh around it, of the ears with their flat lobes, and the sharply engraved spiral curls; the eyebrows are heavy ridges, there is little emphasis on cheekbones but the shape of the cheeks seen in profile seems less unnatural than of our head (where this area has been cut back to make room for the nose; Figs. 1f-h). Besides, Cleobis’ eyes, though bulging, do not protrude beyond the curve of the cheekbones, as they do in our head. His mouth, on the other hand, is very straight. In short, the simplicity of all its planes and ridges contrasts strongly with the lively movement of the surface in almost every detail of our head. On reflection, the differences are such as to show, not only, that our head is somewhat later (in spite of its bulging eyes and the unnatural cheekbones), but also that

<sup>34</sup> *Kouroi*, p. 32 for dating, no. 12 a-b figs. 78-83, 91-2; Boardman, fig. 70; Hampe, Simon, figs. 465-9; Ridgway, p. 70, rightly regards them as narrative statues rather than normal kouroi, because of their powerful, active arms and stance and also because of their hair falling on the shoulders. In fact, they seem exerting themselves in pulling the heavy chariot in which they wheeled their mother to the sanctuary.



there cannot have existed a close common tradition between them; in fact, our head seems almost 'Ionic' side by side with Cleobis. Note that the 'depth' of Cleobis' head from front to ear (Fig. 8b) seems proportionally greater than that of our head seems to have been.

Then there is the colossal 'Hera' of limestone (Fig. 9), of whom we have spoken above (because of her ridged eyebrows, outward slanting eyes and incised iris and pupil in slight relief). The head is dated 580 by Boardman, 600 by Fuchs and by Richter, but a much later date has also been proposed; 590 would suit her stiff mouth and large eyes<sup>35</sup>. Surprisingly, the eyes with their straightish lower lids, are more schematic and primitive than the well-shaped eyes of Cleobis; this may perhaps indicate that the head is apotropaic, which, combined with the curious manner in which the left ear is pushed forward by the hair, might mean that, as has been suggested, it is not part of the cult image of the Hera temple in Olympia but more likely of an, admittedly gigantic, sphinx<sup>36</sup>. The contours of her face form a full oval, broader than that of our head; the ridges of the eyebrows are sharply outlined and so are the lower eyelids; there is perhaps somewhat more movement than in Cleobis' face around the mouth, which, however, is straight and thin-lipped. The differences in respect of our head are similar to those mentioned in the case of Cleobis, but less extreme: they may largely be due to the earlier date of the 'Hera' head. Yet, in view of the cool, matter-of-fact way of carving as contrasted with the undulating movement of the surface of our head, it seems unjustified to speak of a close relationship. Note that in this case, in profile, the distance between the ear and the front of the face is very short indeed<sup>37</sup>.

So we come to the Corfu gable, more especially to Chrysaor (Fig. 10). Boardman and Ridgway warn us not to be misled by the "hooded lids and grimace" of the face of Chrysaor, "who could be none other than the Gorgon's son, given his facial resemblance; his eyes are equally over-large, his mouth is too wide, his nose is squashed, with dilated nostrils". The temple building is often dated 590-580 but Ridgway is inclined to lower its date<sup>38</sup>.

In Chrysaor's face we meet very few similarities; the general contour of the face forms a narrowish oval (shorter than that of our head), also topped by a nicely curved string of spiral curls, but the sharp modelling (or rather cutting) of the hair, the (V-shaped) mouth, the strangely shaped eyes and ears contrast sharply with our head; again we have no parallel for the shallow, high-placed cheekbones visible in Figs. 1g-h. Chrysaor being part of a pedimental relief (the head is in the round) it should be noted that in side view the depth of his face, from nose or

eye to ear, seems natural enough, more so, I think, than in our head (which suggests that our head may perhaps not stem from a statue in the round but rather from a relief-like monumental sculpture). Curiously enough, the lively swelling surfaces of the face of Medusa of the same gable seem to come closer to the rising and falling of the flesh and skin of our head<sup>39</sup>.

The conclusion of these three comparisons surely is that, the modelling of our fragment belongs to a school or tradition that is perhaps remotely related, but not very close to that of these early 'Doric' examples – which, anyway, do not strictly resemble each other.

Limestone sculpture was very common down to at least the middle of the sixth century, but well-preserved, large limestone heads are surprisingly rare. Richter's optimistic expectation that "... any day may bring forth a colossal early limestone kouroi" has so far, it seems, not been fulfilled<sup>40</sup>. Fortunately, however, there is an impressive limestone head of a goddess in the museum of Syracuse, from Laganello, which is of monumental size (0.55 m) and one of the oldest Greek sculptures found in Sicily. It may be part of a cult statue (Fig. 11).<sup>41</sup> The limestone seems coarse. The face is strictly frontal, its contour forming a narrow oval, less pointed than ours; the eyes are very large indeed with nearly straight lower lids; they are looking straight ahead; the surface of the eyelids is as flat as a ribbon. There is little movement in the surface at either side of the

<sup>35</sup> Boardman, fig. 73; *Hampe, Simon*, fig. 440; *Korai*, p. 37 for dating no. 36 (the first in her second group of korai) figs. 118-21; Fuchs, fig. 638. See Ridgway 1993, p. 183 and n. 5.7 for the late date and the different interpretations of the head.

<sup>36</sup> D.K. Hill, *Hesperia* 13 (1944) 353-60; Ridgway, p. 123-4 tells us that the findspot of the head "would almost surely prevent identification with the cult image seen by Pausanias".

<sup>37</sup> For the great depth of early heads in profile see Boardman, figs. 62-3, 68, 100, 108; Fuchs, fig. 636; *Hampe, Simon*, fig. 467; and for later heads see Boardman, figs. 101, 107, 110, 116 (here Fig. 2) etc. The shallowness of the 'Hera' head may perhaps indicate that it was part of a relief.

<sup>38</sup> Boardman, p. 153, Ridgway, p. 193-4 ("a date around 570 could be equally defensible"). Stucchi believes that the figure is Perseus killing Medusa and Ridgway 1993, p. 312 n. 7. 15 is hesitating but the youthful figure is too small, should not attack from the right, should wear Hades' cap, and is too far off and therefore clearly not in the act of attacking her (his right arm may have been outstretched but cannot reach her and the gesture would be limp anyway).

<sup>39</sup> Fuchs, fig. 640; *CMV*, fig. 24.

<sup>40</sup> *Kouroi*, third ed., 1970, p. 7; compare p. 14 of the first ed. from 1938; for limestone kouroi see below, but, as Ducat, p. 453, remarks, they may have been exceptional because of the instability of the material.

<sup>41</sup> *Korai*, no. 41, figs. 135-8; Langlotz, p. 55 no. 3; Ross Hollo-way, figs. 167-9; Fuchs, fig. 639; Robertson, p. 115; Wallenstein regards it as Corinthian (see Ridgway 1993, 54 n. 2. 46). The flat top of the head served as a base for the cylindrical polos.



Fig. 11a. Head from Laganello, after Korai, fig. 136



Fig. 11b. Head from Laganello, after Langlotz, fig. 3

mouth and in the cheeks. The ears are very large and the *tragus* and lobe are stiff; the hair is rendered in an extremely harsh globular stylization. There are large spiral curls on the forehead.

Richter dates the head 580-570 (as belonging to her group containing the 'Hera' head and the Berlin kore), Langlotz 580, Fuchs about 600 B.C. In view of the shape of the eyes and the ears a date about 590-80 seems most likely; at any rate, all details show that it is far earlier than our head.

This impressive piece proves that also in the West monumental statues existed of a material and quality comparable to those of our head<sup>42</sup>; it draws our attention to Archaic Western sculpture which should, of course, not be ignored in our discussion.

Generally speaking, heads in Western Greek sculpture seem very different from our head and, apart from the use of coarse limestone, it seems hardly relevant here. Yet a few words must be said. The faces of the metopes of temple C in Selinus – which must be roughly contemporary with our head (in spite of the progressive details in some drapery) –

are more square-jawed, the cheekbones are not hollowed out at either side of the nose, but the general shape of the heads and the eyes and mouths is surprisingly 'primitive', the features being far less differentiated<sup>43</sup>. Curiously enough, the style of these faces (except perhaps of fragment C5c) is even less naturalistic than that of the earlier, much smaller metope with "Demeter and Kore" riding in a frontal chariot, which can hardly be dated later than 560 BC, and might well be earlier<sup>44</sup>. In spite of the small size

<sup>42</sup> As for size (50 cm) the Laganello head is unique in Western Greek art, but also for its quality.

<sup>43</sup> Tusa, pls. 4-6; Giuliani, pls. 4-7. The date should be not later than 550-40, see Ridgway 1993, p. 355, and 374-5 n. 8. 51. Giuliani, p. 17 ff, and Richter in *Korai*, no. 90, rightly agree with Ross Holloway (*AJA* 75, 1971, 435-6) that the folds of Perseus' skirt and Athena's himation are due to recarving, which probably took place when, after some thirty years, the metopes had to be re-stuccoed and repainted.

<sup>44</sup> Tusa, pls. 28-9; Giuliani, pl. 8; Ross Holloway, fig. 110; size of the figure scene about 0.60 m (exclusive of the flat, broad framing bands above and below). Fragment C5c: Giuliani, pl. 7.2.





Fig. 12. Detail of metope from Selinunte, after Tusa, pl. 28

of this relief, which is sometimes called 'Ionian', the two lively faces of the goddesses (Fig. 12) form the only example of Western Greek heads which do seem more or less related. However, since our head is very likely from Greece itself, no close parallels from the Western Greek world are to be expected. At any rate, these five comparisons (three of the heads being the most important monumental limestone heads available) show that our fragment does not clearly belong to the artistic tradition of any of them. Consequently, for a firmer establishment of the authenticity of the head and a more definite assessment of its style and character, and for the study of the stage of development it represents, we need more, and more detailed, comparisons and therefore we will leave limestone sculpture and turn to marble heads: we shall discuss it now as if it were part of a kouros – which, after all, it does resemble<sup>45</sup>. The head being about a foot high (29-31 cm), the statue would have been ca. 1.80 m high, that is, if we take it to be, as Boardman calls it, a six-footer<sup>46</sup> (early kouros such as the one in New York and Cleobis); but if we assume it was a seven-foot statue (such as the kouros from Melos and in Munich) it would have been about 2.10 m. As for the stage of development it represents, it is clear that, in spite of its bulging eyes above shallow cheekbones, it looks 'later' than the four early heads discussed above (Figs. 8-11); obviously its stage of development is roughly that of, e.g., the Milani kouros in Florence (Fig. 6), which shares with it the bulging eyes, the shallowness of the cheekbones, the concave shape of the lower part of the face under the cheekbones, and also the 'long' prominent chin (besides, the irises are incised). Contrast the 'sphinx' head Acr. 654 (Fig. 2) of about 560-50, discussed above and, e.g., the kouros from Thera, which is also roughly contem-



Fig. 13. Head of sphinx from Cyrene, after AJA 75, pl. 9,2

porary (Fig. 5); these two seem less old-fashioned, mainly because of the better rendering of the cheekbones; note, however, the harshness of the carving in the Thera kouros, e.g., in the curls on the forehead and the ears, which are quite flat and without *tragus*<sup>47</sup>. The two kouros are dated 570-560 by Boardman, the Thera kouros somewhat earlier by Richter<sup>48</sup>.

<sup>45</sup> For limestone kouros see Adams p. 1-2, esp. n. 4; e.g., Ducat, nos. 107-16 and for the Isthmia fragments see also Ridgway, p. 48 and 78.

<sup>46</sup> Boardman, p. 78; in the case of the Sounion kouros and similar giants, one may speak of a 'six-header'.

<sup>47</sup> For the Milani kouros see n. 14. Acr. 654: Boardman, fig. 116. Thera kouros: Boardman, fig. 101; *Kouros*, no. 49, figs. 178-83; *CMV*, fig. 140; painting must have added detail to the flat spiral curls of this kouros. Note the angular jaw when seen frontally of the Milani kouros (in side view the *angulus mandibulae* is not stressed) and that the face of the Thera kouros is broader than that of our head.

<sup>48</sup> *Kouros*, p. 59 ff, Orchomenos-Thera group 590-570 (Thera kouros) and Tenea-Volomandra group 575-550 (Milani kouros).

The modest smile of our head is more subdued than that of the heads just mentioned and, *e.g.*, of the Nike from Delos<sup>49</sup> (usually dated about 550). Its long, powerful chin is, as we have seen, reminiscent of the Milani kouros (Fig. 6) which is also a good parallel for other aspects. The nicely curved string of spiral curls over the forehead is, of course, a common trait in this period.

The above fixes the stage of development shown in the head and also – though scholars differ notably in their opinion on the chronology of sculptures of the first half of the sixth century<sup>50</sup> – its date: about 560 B.C., far beyond Cleobis (Fig. 8), the Hera head (Fig. 9) and also beyond the Laganello goddess (Fig. 11). Compared to such more or less contemporary kouros as those from Thera and in Florence (the Milani kouros, Figs. 5-6), our head appears to belong to a different tradition: the movement of the surface of the details of the face seems more lively and, perhaps, daring, whereas the shape of the head is more primitive because of the flatness of its sides and front, because of the size of the eyes and the way in which they bulge forward – features that do not permit, I believe, to lower the date beyond 560 B.C. In most of the heads cited so far, there is much emphasis on the jaws, which make the facial contour when seen frontally distinctly angular (especially the Milani kouros, Fig. 6). This angularity is conspicuously absent in the frontal view of our face (Figs. 1a-b). Let us consider this linear or ‘jawless’ oval treatment for a moment.

It is, of course, the rule in early statues, such as the Dipylon head and the New York kouros, but the *anguli mandibulae* are soon taken into account, *e.g.*, in Cleobis (Fig. 8), and quite strongly in Attic work, such as the Berlin kore<sup>51</sup>. The narrow, ‘abstract’, ‘jawless’ facial oval is, however, continued in some areas, especially in what is commonly regarded as Cycladic sculpture. Beautiful examples are an early, colossal head from Naxos in Copenhagen with a dry outline (first quarter of the sixth century, according to Richter and Robertson)<sup>52</sup>, the Laganello head (Fig. 11), the sphinx from Cyrene to be discussed below (fig. 13)<sup>53</sup>, the Naxian sphinx and the ‘Naxian’ kore, Acropolis no. 677, both of a dry style<sup>54</sup>; further, the somewhat later, more fleshy head from Epidaurus (Fig. 14)<sup>55</sup> and of the Keos kouros<sup>56</sup>. As has been said, this facial type contrasts strongly with the Attic examples cited above, all of which are provided with powerful jaws, broadening the lower part of the face when seen frontally (*e.g.*, the sphinx Acr. 654, Fig. 2). Most of these oval shaped faces are far dryer than ours, but not so the heads from Epidaurus (Fig. 14) and of the Keos kouros. At any rate, the facial oval of our head is nothing out of the ordinary, though it does not help us much further in tracing

its exact artistic background.

All these comparisons show, it is to be feared, that we will not succeed in finding a fully convincing, more or less exact, contemporary parallel in Greek sculpture. Yet, the lively modelling of sculptures such as the Epidaurus head (Fig. 14) suggests that the style of our head is not too far off from certain less-known artistic traditions in Greece and on the islands.

However, perhaps we can do a little better. A general family likeness, combining striking vitality with emphatic swelling and dipping movements of the surface of the face, is, I believe, to be seen in the (rather later) Ptoion kouros NM 12 (Fig. 15), which is usually regarded as a little provincial but seems powerful enough and decidedly lively (dated about 530 by Boardman)<sup>57</sup>.

In profile, the cheekbones are at a high level and marked, the eyes are projecting forward beyond them, and lower down there is a concave area around the mouth down to the chin; the line of the jaw from chin to ear slants upwards with even less of an *angulus mandibulae* than in our head (*cf.* Fig. 1g). The face is very flat indeed; in Ducat’s words: “*On est frappé par la platitude de ce visage; il fait en bas un retrait marqué, souligné plutôt que compensé par la projection du menton. Une conséquence du peu de profondeur de ce visage est que les mâchoires, de profil, dessinent une oblique très fuyante*”<sup>58</sup>. But the head is not only flat, it is

<sup>49</sup> Boardman, fig. 103; Robertson, fig. 14c; *CMV*, fig. 173.

<sup>50</sup> There is, it seems, a tendency to lower dates in the first half of the sixth century which seems to blur the anatomical development on which it is almost exclusively based; see *e.g.*, the low dating, 560-50, of the korai 677 and 619 in Boardman, figs. 98-9, Ridgway, p. 104 and note the shape of the eyes.

<sup>51</sup> Boardman, figs. 62-3, 70, 108; Boardman and Ridgway 1993, p. 142-3 date the Berlin kore 570-60, but 590-80 seems more likely. It is probably a funerary statue but is sometimes taken as a deity.

<sup>52</sup> Robertson, fig. 22a; *Kouros*, no. 50, figs. 172-3 (Orchomenos-Thera group).

<sup>53</sup> Ridgway, fig. 46, p. 158 and *AJA* 75, 1971 pl. 9.

<sup>54</sup> Boardman, figs. 99-100 (dated 560-550, which seems too late), Ridgway 1993, p. 225 (around 560); Richter 580-70 in *Kouros* p. 61; Robertson, p. 86 f. Compare the oval face of the Melos kouros (Boardman, fig. 102).

<sup>55</sup> Athens NM 63, Robertson, fig. 22 b; *Kouros*, no. 91, figs. 293-6; Fuchs, fig. 641; Ridgway 1993 p. 65 and n. 3. 7, regards it as an Ionic import, Ducat as Cycladic and Robertson as Aeginetan.

<sup>56</sup> Dated third quarter of the sixth century by Robertson, pl. 20c, p. 88 f., *Kouros*, no. 144 figs. 419-24 (Anavysos-Ptoon 12 group, 540-20), *CMV*, fig. 191, p. 154: “visage de type naxien, à l’ovale allongé, gonflé”.

<sup>57</sup> Ducat, no. 197, pls. 112-4; Boardman, fig. 179; *CMV*, fig. 192; *Kouros*, no. 145, figs. 425-29. Robertson is, I think, too severe in his judgement of the Ptoion kouros, p. 112: “not one of them ... is of much intrinsic interest as a work of art”.

<sup>58</sup> Ducat, p. 347.





Fig. 14. Head from Epidaurus, after Fuchs, fig. 641



Fig. 15a. Kouros no. 12 from Ptoon, after *Kouroi* 1st ed., fig. 341

also remarkably shallow measured from the front to the back (Fig. 15b) – as our head may well have been (Fig. 1g-h). Though in frontal view the face in Fig. 15a is broad and the eyes are slanting and small, it seems to me that this kouros is not unlike what we might expect of a later progeny of the same family as our head.

This is brought out by the comparison with the head from Epidaurus (Fig. 14), which is more or less contemporary with our head<sup>59</sup>; its face shows a somewhat comparable though less marked muscular liveliness but differs in the shape of details, such as the slanting position of the eyes, and the size of the mouth, while there is less emphasis on the area of the cheekbones and round the mouth<sup>60</sup>. Therefore, as regards its artistic ‘school’ we are still somewhat in the dark, though it may be pointed out that the Ptoan sanctuary has produced a variety of works of less clearly defined stylistic character, some of

which are perhaps not too far off for comparison with our head, such as, for example, Athens NM no. 16 (Fig. 16)<sup>61</sup>.

All these comparisons and observations may not have resulted in pinpointing the exact Greek school or region of its origin, but they are, we believe, convincing as regards the authenticity of the head, bringing out its special qualities and peculiarities as a piece of Greek sculpture. The sculptor was a gifted artist, progressive and original in some respects, conservative in others. The head is exceptional because of the ‘emotional’ furrow in its forehead

<sup>59</sup> Dated 570-60 by Fuchs fig. 641 (Athens, NM63) and Robertson fig. 22b; but later by Richter: Melos group, ca. 550 B.C.

<sup>60</sup> Robertson, p. 89: this head is usually not regarded as Peloponnesian but as belonging to Cycladic art.

<sup>61</sup> See the good photographs in *Kouroi*, no. 101, 322-3.



Fig. 15b. Kouros no. 12 from Ptoon, after *Kouroi* 1st ed. fig. 343



Fig. 15c. Kouros no. 12 from Ptoon, after *Kouroi* 1st ed. fig. 342

(which is so far unique in Archaic sculpture though it was surely known in painting) and because of the stylization of the outer corners of the eyes. It is peculiar because of the combination of a striking liveliness in the rising and dipping of the surface, with a very conservative adherence to the basic block-like shape as seen in the flatness of the front and side planes (Fig. 11); other 'early' traits are the shallowness of the cheekbones, the size of the eyes and the way they bulge in profile view. However, as pointed out above, its relief-like flatness may be a sign that it once belonged to a relief-like monument – a possibility that will be discussed below. The technique of carving seems typically Archaic in view of the absence of any traces of a drill, of the very restrained use of the flat chisel – which must have been a very narrow one, besides –, and the apparent care and slowness of the cutting process. Its quality as a powerful piece of art, which also strongly argues for its authenticity, has, we hope, sufficiently been pointed out.

If, to some readers, the remaining uncertainty as regards its exact place within Archaic sculpture, may seem surprising, or even disturbing, it should be pointed out that similar problems arise quite often whenever new additions are made to our knowledge of Greek sculpture, the most notable perhaps being the Piraeus kouros<sup>62</sup>. One of the unusual traits of the

<sup>62</sup> Dated over a wide range, from 530 to 480 (and even much later); it is now believed to be our first example of archaizing art, but this impression may be due to our unfamiliarity with the artistic tradition it represents and the fact that its material, bronze, affords more freedom in shaping, such as the feet, which are, as has been pointed out, surprisingly progressive. See Boardman, fig. 150 and for a thorough discussion see G. Dontas in *AKGP* I, p. 181-192 with pls. 77-9 and Ridgway 1993, p. 87 and n. 3. 62 (p. 114). Another example of controversial new finds is the magnificent, puzzling masterpiece of Motya, see V. Tusa in *AKGP* II, p. 1-11, pls. 82-5. Sometimes the Tenea kouros is regarded as a stylistic problem but its face and body is not so far from contemporary Corinthian vasepainting as to surprise us unduly, in spite of its alleged 'Ionic' component, see Ridgway, *Hesp.* 50, 1981, 423.



head of this Apollo (Fig. 7b) is like the most striking feature of our head: the cheeks are too flat at either side of the nose, and the chin and mouth protrude as if the nose had been pushed into the face a little. Our conclusion is that the head stems from some workshop other than those of Attic, Peloponnesian and Cycladic sculptures, one that seems not too far from the shops that produced more or less provincial work for the Ptoan sanctuary in Boeotia; it may, therefore, originate from somewhere in Central Greece, to which also the particular limestone may point (see above, *sub* 'Material').

#### INTERPRETATION, IDENTIFICATION

Finally, we have to discuss the interpretation or identification of the head. As has been said, we do not know whether it is part of a statue in the round or a relief. Let us suppose that it was part of a free-standing statue; then we must first consider our initial assumption that the head belonged to a sphinx. Though we were aware that its masculine character might appear inappropriate, this did not seem decisive at the time.

If we take a (seated) sphinx to be about four to five times the size of its head, our figure would be somewhat like Fig. 1j<sup>63</sup>, about 1.20 - 1.50 m high, more than half the size of the Naxian sphinx in Delphi (2.32 m)<sup>64</sup> and bigger than all funerary sphinxes preserved so far – of which we were reminded because of the turn of the head towards the spectator, which is common in funerary sphinxes and exceptional in votive examples – though, as Mary Moore kindly points out, this turn does not seem strong enough for a sphinx.

There are five funerary sphinxes of limestone, all others are of marble<sup>65</sup>. An early funerary sphinx is that of Spata in Copenhagen, of limestone, smaller than ours would be (0.85 m), clearly older (about 580 according to Boardman) and stiffer, broad-faced and in every respect remarkably different<sup>66</sup>. In many early sphinxes the shape of the eyes tends to be old-fashioned, large, staring straight ahead, with straightish lower lids; so for example in the delicately carved Attic grave-sphinx from the Kerameikos (0.65 m), dated by Boardman 560 B.C. and, more strikingly, the smaller, very stiff marble sphinx, also from Spata (Athens NM no. 28; 0.45 m), dated by Boardman 550 but seeming much older (the eyes are much too large and too close together and the mouth is stiff; compare the Berlin kore)<sup>67</sup>. The eyes of our head, though also large and rather too near each other, seem more human, less 'apotropaic' in shape and expression; and the broad, square-jawed shape of the heads of these Attic sphinxes forms a sharp

contrast with our oval-shaped head, emphasizing the stylistic distance between them.

Votive sphinxes were occasionally larger than funerary ones: apart from the colossal sphinx in Delphi (and the possible 'Hera-sphinx' of Olympia), there are remains of a sphinx from Cyrene (Fig. 13), whose head is of the same size as ours or even larger<sup>68</sup>. Ridgway calls it "somewhat later" than the Naxian sphinx (which she dates 560, which seems too late). The Cyrene sphinx, which looks Cycladic because of the shape of its face, may indeed be contemporary with our head; its oval contour is like that of our head but the forehead is higher, the bordering locks forming a much higher arch. The eyes seem less wide-open, the lower lids are perhaps slightly straighter and the mouth is stiffer and the same seems true of the ear. On the whole, our head seems more developed, but the two are very different in stylistic character. Though in the photographs the Cyrene sphinx's face is friendly and feminine, her mouth is straight and almost grim; once more, the comparison brings out the powerful vitality, masculinity and liveliness of our head and, incidentally, the small size of his mouth.

As a rule votive sphinxes do not turn their heads to right or left, though some may, for example, if two

The Berlin kore has been regarded, as Robertson, p. 99-100, tells us, with "a suspicion of forgery": "one's first idea is to place it between the Sunium group and the Moschophoros; but a suggestion that it is a cult-statue from a country temple of slightly later date (mid-century), in a style which has deliberately backward-looking elements to enhance the awesome remoteness of the deity, does something to explain its oddity and could be right". However, this seems unlikely; the novelty of the statue when it became known disconcerted scholars, as it still does in the case of the Piraeus kouros; and I remember that in my student days the New York kouros was also found problematic.

<sup>63</sup> In this drawing by Dr. Jaap Morel the asymmetry of the head has unfortunately been reversed; and the four wavy locks falling over the shoulders are perhaps inaccurate.

<sup>64</sup> Naxian sphinx: Boardman, fig. 100 and Ridgway, p. 158, who date it 560 BC, which seems too late because of the shape of the eyes.

<sup>65</sup> For sphinxes see Ridgway, p. 156-60; for funerary sphinxes of 600-520 BC, see *AGA*, nos. 1-4, 11-16, 17(?) 19, 37-40. The nos. 2-4, 14 and 15 are of limestone. Further see Ridgway, p. 156-7 and 1993, p. 223-9; Robertson, p. 87 f. and Ross Holloway, figs. 199-200; *AAA* 6, 1973, p. 182-3 figs. 1-2; O. Rubensohn, *Das Delion von Paros*, 1962, p. 57-8, no. 7, pl. 9 etc.; *AGA*, no. 13 is the largest, and can be reconstructed to a height of about 1 m; the others range from 0.40 to 0.95 m.

<sup>66</sup> Boardman, fig. 225; *AGA*, no. 3; the eyes are rather like those of Cleobis (Fig. 8), the eyeballs being very rounded and the inner and outer recesses rendered as narrow extensions.

<sup>67</sup> Boardman, figs. 226-7; *AGA*, no. 12. Berlin kore: Boardman, fig. 108. The Kerameikos sphinx, Boardman, fig. 226, wears very ornate, flowery, spiral curls on her forehead, which do not give the face a masculine appearance.

<sup>68</sup> Ridgway, p. 158 fig. 46 and 1993 fig. 94; D. White, *AJA* 75, 1971, 47-55; White's reconstruction is even 1.70 m. No good photographs seem to have been published so far.



Fig. 16a. Head from Ptoon, after *Kouroi* 1st ed., fig. 259



Fig. 16b. Head from Ptoon, after *Kouroi* 1st ed., fig. 260

form a pair or if a sphinx was made to be seen from a single viewpoint for some other reason<sup>69</sup>. Anyway, the preserved votif sphinxes are of marble and, besides, the forehead hair of our head is, as we have seen, not like that of sphinxes, who are, after all, female (at least since the beginning of the sixth century) and only rarely wear comparable spiral curls<sup>70</sup>. Finally, we should mention the use of sphinxes as acroteria: obviously, our supposed 'sphinx' would be too large to have served as such; moreover, acroteria are only very rarely made of limestone<sup>71</sup>. All this shows that it is unlikely that our head once belonged to the statue of a sphinx – though the possibility cannot be ruled out entirely<sup>72</sup>.

What then is to be suggested? The turn of the head and the furrow in the forehead should be accounted for. It is hard to believe that it could have belonged to a tall free-standing statue of a man in action, since we have no evidence of monumental narrative statues of such material; not even the Laganello head may be cited here for it seems to have been part of a cult image (Fig. 11). One might perhaps be reminded of the Rampin horseman but our head is 5/4 life-size which would require an enormous horse!

If both a sphinx and a free-standing statue are to be excluded, the only other possibility seems to be that

<sup>69</sup> Ridgway, p. 160; if the 'Hera' in Olympia is part of a sphinx, this one would also turn its head (to left); anyway, whether a votive sphinx would turn its head must have depended on the position in the sanctuary it was planned for. Other votif sphinxes: J.G. Pedley, *Greek sculpture of the Archaic period, the island workshops*, 1976, p. 25, no. 6, pl. 3a; from the Acropolis, see *AMA*, pl. 164 and figs. 293-5; there is a fragment of a sphinx from the Aphaia temple, *AM* 80, 1965, p. 170-208, pl. 3. These sphinxes do not turn their heads except Acr. nos. 632 and 3723. Of Etruscan stone sphinxes, all funerary, only 3 of 23 specimens turn their heads (Patricia Lulof, *BABesch* 69 (1994) p. 58).

<sup>70</sup> But compare the Piraeus sphinx, Boardman, fig. 226; and see Langlotz, colour plate vi (terracotta head of a sphinx?) and the terracotta *ibid.* pl. 29, possibly a sphinx; also the relief from Caltagirone, *ibid.* pl. 13, about 590-80 B.C. and the marble head of a sphinx in Mariemont: *AGA* no. 18, fig. 62, dated about 550.

<sup>71</sup> M.Y. Goldberg, *AJA* 86, 1982, 193-217 lists 215 Archaic acroteria; 175 are of terracotta, 37 of marble, 1 of bronze and only two of limestone (volute-acroteria from Selinus, nrs. V15-16).

<sup>72</sup> J. Floren, *Die griechische Plastik, I. Die geometrische und archaische Plastik*, 1987, follows our initial suggestion on p. 171: "In der Nachfolge der Bauplastik des Artemistempels von Korkyra steht der Kopf eines überlebensgrossen Kalksteinsphinx um 560 in Amsterdam".



the head formed part of a (very) large relief with deeply cut figures, such as were sometimes used in the gables of big temples<sup>73</sup>.

In Doric temples pediments were adorned with sculptures from about 600 B.C. onwards, with the exception, however, of the Doric temples of Sicily and South Italy<sup>74</sup>. It is remarkable how slight our knowledge is of Archaic temples that may have been adorned with pedimental sculptures – but we do know that they are restricted to Greece proper. Ridgway tells us that on Corfu we have evidence of no fewer than six decorated pediments (one older – ca 600 – and larger than those of the Artemision, and two in terracotta); against probably only one at Sparta; Athens has yielded some twelve pedimental compositions or more, there are six in Delphi (two large groups from the Apollo temple) and six in Olympia, a large temple at Asea in Arcadia, at Topolia in Boeotia and at Eretria, Aegina (Apollo temple), two terracotta groups at Corinth, and remains of a gable at Cyrene (most of these being late). There are no narrative pediments in Italy or Sicily before 480 B.C.<sup>75</sup>.

As far as we can tell, our head cannot have belonged to any of the temples we now have some knowledge of, but in view of the great number of early temples that have been preserved on Sicily, and the number of pediments now known from the small island Corfu, it seems reasonable to assume that there must have been very many more temples than are known at present, especially in the northern and central parts of Greece but also in the Peloponnesus<sup>76</sup>.

If our head stems from some architectural complex, as part of a (very) deep relief (possibly with heads in the round, like those of the Corfu gable) – and not from a free standing statue –, it probably once belonged to a pediment comparable to that of the Corfu temple (the central Gorgo there is 2.80 m and Chrysaor 1.70 m). Our figure, even when not standing completely upright, would have been some 1.70 m or taller and this would require a large pediment and a large temple. Such limestone temples may well have existed in central Greece, in the regions of the Pindus or thereabout, to which the particular type of limestone may perhaps point (see above, *sub Material*) but we have no helpful remains of any, not even in the oldest sanctuary of Greece, that of Zeus at Dodona.

As regards the interpretation of the figure: when it appeared that the head was turned towards the spectator, the first thing that came to mind (apart from the possibility of a sphinx) was Chrysaor of the Corfu gable, and we were reminded of the stance of the Archaic figures of Perseus in the act of decapitating Medusa. If indeed the head belonged to the representation of some adventure of a young hero – and

Ridgway tells us that the locks hanging over the chest suggest as much<sup>77</sup> –, the marked groove in his forehead would be explained as indicating the effort of a strenuous deed or conveying fear for some immediate danger – but it would be useless to theorize about the particular hero that may have been represented<sup>78</sup>.

#### CONCLUSION

The head, though exceptional, must be regarded as authentic; it is probably not part of a sphinx or another kind of statue, as was suggested in earlier discussions, but more likely of a powerfully carved high relief. It may stem from some, probably unknown, sanctuary, perhaps somewhere in northern or Central Greece. It is of high artistic quality and of a somewhat unusual style for which no manifest close parallel is known to us; it should be dated about 560 B.C.

J.M. Hemelrijk

with much help from Madelon Witterholt,  
Gwen Tolud and Helle Hochscheid.

#### ABBREVIATIONS AND BIBLIOGRAPHY

- Adam: S. Adam, *The Technique of Greek Sculpture in the Archaic and Classical Periods* (BSA Supplementary Paper 5) 1966  
 Adams: L. Adams, *Orientalizing Sculpture in soft limestone*, BAR Suppl. series 42, 1978  
 AGA: G.M.A. Richter, *The Archaic Gravestones of Attica*, 1961  
 AKGP: *Archaische und klassische Griechische Plastik, Akten des Internationalen Kolloquiums*, April 1985, Vols. i and ii (1986); ed. H. Kyrieleis  
 AMA: H. Schrader, E. Langlotz, W. Schuchardt, *Die archaische Marmorbildwerke der Akropolis*, 1939  
 Boardman: J. Boardman, *Greek sculpture; the Archaic Period*, 1978

<sup>73</sup> This seems, as we have suggested above, to agree with the relative lack of depth of the head measured from front to ear.  
<sup>74</sup> See especially Ridgway, p. 187-216 (for the distribution of pediments see p. 189-91); further Langlotz, p. 33.

<sup>75</sup> This summary is an excerpt from Ridgway, p. 189 ff. and 1993, p. 275 ff., 296 ff., 300, 302; "Pedimental sculpture in stone seems... totally absent from East Greece". None has been found in Crete, nor in the Cyclades except at Kea (late Archaic).

<sup>76</sup> Robertson, p. 113, speaks of a "surprising dearth of sculpture from this time" in the N.E. Peloponnesus (Corinth, Sicyon, Argos).

<sup>77</sup> Ridgway, p. 61: "mythological figures in architectural sculpture are thus differentiated from common mortals and projected back into the conservative past".

<sup>78</sup> As has been said above, Perseus should wear the cap of Hades; Heracles would preferably, though not necessarily, wear the lion skull, but other heroes are equally possible.

- Casson: S. Casson, *The technique of early Greek sculpture*, 1933
- CMV: J. Charbonneaux, R. Martin, F. Villard, *Grèce Archaique*, 1968
- Ducat: J. Ducat, *Les Kouroi du Ptoion*, 1971
- Fuchs: W. Fuchs, *Die Skulptur der Griechen*, 1969
- Giuliani: L. Giuliani, *Die archaische Metopen von Selinunte*, 1979
- Hampe, Simon: R. Hampe and E. Simon, *Tausend Jahre Frühgriechische Kunst*, 1980
- Heberdey: R. Heberdey, *Altattische Porosskulptur*, 1919
- Korai: G.M.A. Richter, *Korai*, 1968
- Kouroi: G.M.A. Richter, *Kouroi*, 1960 2nd ed.
- MVVAPM: *Mededelingen Vrienden Allard Pierson Museum*
- Payne: H. Payne and G.M. Young, *Archaic Marble Sculpture from the Acropolis*, 1936
- Ridgway: B.S. Ridgway, *The Archaic style in Greek sculpture*, 1977
- Ridgway 1993: second edition of the same
- Robertson: M. Robertson, *A History of Greek Art*, 1975
- Rodenwaldt: G. Rodenwaldt, *Korkyra II*, 1939
- Rodenwaldt, *Altdorische*: G. Rodenwaldt, *Altdorische Bildwerke in Korfu*, 1938
- Ross Holloway: R. Ross Holloway, *Influence and styles in the Late Archaic and Early Classical Greek sculpture of Sicily and Magna Graecia*, 1975
- Tusa: V. Tusa, *La Scultura in pietra di Selinunte*, 1984
- Wallenstein: K. Wallenstein, *Korinthische Plastik des 7. und 6. Jahrh. v. Chr.*, 1971
- Wiegand: T. Wiegand, *Die archaische Poros-Architektur der Akropolis zu Athen*, 1904

#### PUBLICATIONS OF THE HEAD

- J.M. Hemelrijk, *MVVAPM* 12 (1976) 2-4, fig. 1-3;
- J.M. Hemelrijk in *Gifts to mark the Reopening of the Allard Pierson Museum* 1976, 9-10, pl. 1-2; J. Cok/A. van der Goes in *Gezicht van de Oudheid, Aanwinsten* (exhibition in the A.P. Museum), 1982, no. 37, pl. VII;
- J.M. Hemelrijk, *MVVAPM* 24 (1982) 7 fig. 21; M.J. Cok-Escher, *MVVAPM* 29 (1983) 14-15; *Griekse, Etruskische en Romeinse kunst in het Allard Pierson Museum* (Guidebook to the A.P. Museum) 1984, 24-25, fig. 9; *Marmer in Beeld, MVVAPM* 59-60 (exhibition in the A.P. Museum), 1994, 20-21 fig. 38a-b.

# Satricum

## Preliminary Report of the 1996 Excavations by the University of Amsterdam

M. Gnade

During the summer of 1996 the archaeological explorations of the ancient settlement of Satricum (Borgo Le Ferriere) were continued. For nine weeks a team from the Department of Mediterranean Archaeology of the University of Amsterdam carried out excavations in the lower part of the settlement, northwest of the acropolis, in the 'Poggio dei Cavallari', which is today referred to as the 'proprietà Santarelli', after its owner<sup>1</sup>. (Fig. 1)

Since the transferal, in 1990, of the Satricum Project from the Dutch Institute at Rome to the Universities of Amsterdam and Groningen, our attention has focused on the acropolis, where the excavations of the nineteen-eighties behind the temples of Mater Matuta were resumed and have yielded some surprising results<sup>2</sup>. An invitation by the Santarelli family to explore their land, however, made us decide to give priority to one of the very few zones of the urban settlement of Satricum which may still be partly 'intact'. This terrain, almost 4 ha, is situated about 200 metres northwest of the acropolis, along the northeastern edge of the tufa table of Satricum, and is bordered on the south by the modern road between Nettuno and Cisterna. Unfortunately, in 1983, when the land was levelled for the planting of vines, more than a metre of ground was removed from the surface and, with it, undoubtedly a wealth of archaeological information, including part of a long-known Roman villa<sup>3</sup>. Only a very small section was left untouched: a heap of ground located next to the modern road, containing ancient tufa blocks which projected from all sides.

In the following year an emergency excavation was carried out, which resulted in the documentation of some 1000 m<sup>2</sup> of the Roman villa and the discovery of a series of long parallel walls which are constructed of large rectangular blocks of tufa<sup>4</sup>. The walls were traced in an east-west direction, with an interruption of about 50 metres, extending over a total length of at least 140 metres. A few other shorter walls were also identified. At least two phases could be established on the basis of the colour and the size of the tufa blocks. The pottery finds indicated a long period of use, from the seventh to fourth centuries B.C. Two hypotheses were then put forward as to the function of the walls: being long, parallel and monumental, either they

were part of a fortification situated along the northern side of the urban area or they belonged to a major road, like the one excavated between Cerveteri and its harbour Pyrgi<sup>5</sup>. After a single excavating season, however, the owner denied us further access to the land and for ten years it was referred to by us as 'the area of the long walls'. As we shall see, the long walls are probably indeed part of a major traffic artery which led into Satricum and up to the acropolis.

### THE 1996 EXCAVATIONS

The excavations aimed primarily at exploring the very large area described above as quickly and as efficiently as possible in order to establish the presence and the extent of the ancient remains. To realize this end, thirteen long trial trenches were dug with a bulldozer in different directions (Fig. 2, nos. 1-13). In total, about 800 m<sup>2</sup> of the area were investigated. The second objective was to get more information which would throw light on the relations, chronology and possible functions of the various walls excavated in 1984. The walls were uncovered for as much of their length as possible and, to obtain detailed stratigraphical information, three large transverse trenches were dug, labelled sections I-III.

<sup>1</sup> The excavations were carried out between 1 July and 31 August. The team consisted of 27 people, placed under the general supervision of the author: seven archaeologists, a geometer, a geophysicist, two technicians, a photographer and fourteen students. The fieldwork was directed by Patricia Lulof; the elaboration of finds was directed by Demetrius Waarsenburg. Photographs by Anneke Dekker. The English text has been corrected by Vincent Tosto. All remaining flaws are mine. The excavation campaign of 1996 has been financially supported by the University of Amsterdam, the Stichting Utopa and the Stichting Nederlands Studiecentrum voor Latium.

<sup>2</sup> For the excavations behind the temples see Stibbe 1981, 306; *idem* 1983, 52-53; Heldring 1984, 98; *eadem* 1987, 285-287. For the most recent results of these excavations see Gnade 1997 (in press).

<sup>3</sup> The Roman villa was discovered during the Italian excavations at the end of the nineteenth century; cf. Barnabei & Mengarelli 1896, 199.

<sup>4</sup> For the report on these excavations see Heldring 1985, 72-75; Heldring & Stibbe 1987, 234-238. For the Roman villa see also *CatSatricum* 1985, 173-175.

<sup>5</sup> Cf. Colonna 1967, 342-348; *idem* 1968, 75-87; *idem* 1970, 17, 639.



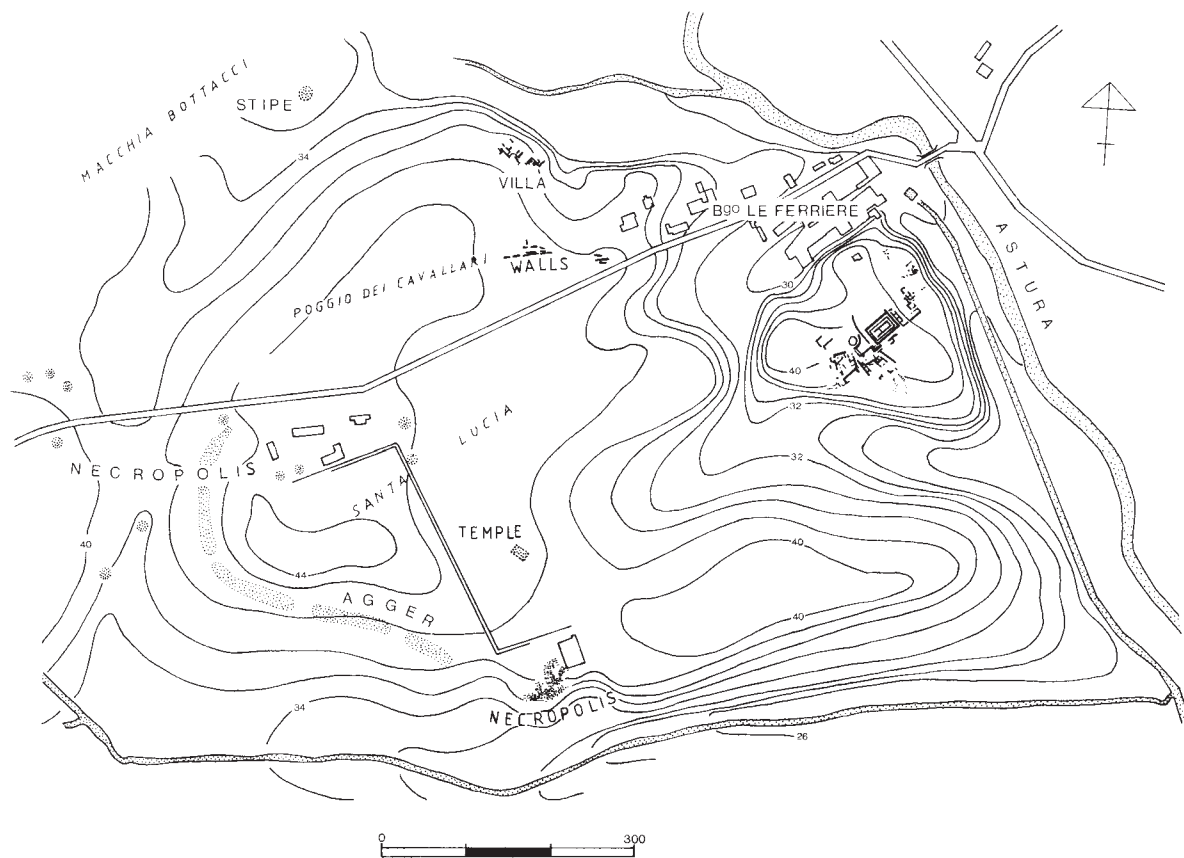


Fig. 1. Map of Satricum (Borgo Le Ferriere) with ancient remains indicated

### Long walls

We began by cleaning and documenting the walls discovered in 1984. (Figs. 2-3) On the west side, about 50 metres north of the modern road, there were parts of three long parallel walls, running east-west and following a slightly curving course (*b-d*). These appeared to be constructed of large, rectangular blocks of brown tufa, of the type used to build the second temple of Mater Matuta. Directly south of wall *b*, another wall was excavated, constructed of blocks of white tufa, with greater surface size than the blocks in the other walls but thinner than them (*a*). (Figs. 2-4)

The excavation area was then expanded towards the east (area IV) where walls *c* and *d* could be traced for an additional 10 metres, continuing in an easterly direction at an increasingly deeper level. The walls obviously followed the ancient lay of the land. Of the three sections, section I, being excavated for the greater part down to the virgin soil, provided

most information regarding chronology, lay-out and function. (Fig. 5) The two inner walls, *c* and *d*, lying about 6 metres apart, appeared to have been constructed at the same time. They are two blocks high (about one metre) and show at the bases of the inner sides of the lowest blocks, at the junction with the virgin soil, a stratum of a very compact and smooth substance, composed of tufa. (Fig. 6) The function of the tufa stratum cannot yet be established. Most probably it acted as a kind of concrete which was laid to help reinforce the walls where they rest on the virgin soil or it was meant to protect the bottoms of the lowermost blocks from damage by water. Above the tufa stratum, the space between walls *c* and *d* showed a filling consisting of different and distinct layers: the lowermost one was a thick and remarkably clean clayish layer; those directly above it consisted of brownish earth mixed with chunks of tufa and pottery shards, especially those of large storage jars; and corresponding more or less with the uppermost level of the walls there

# SATRICUM 1996

Proprietà Santarelli

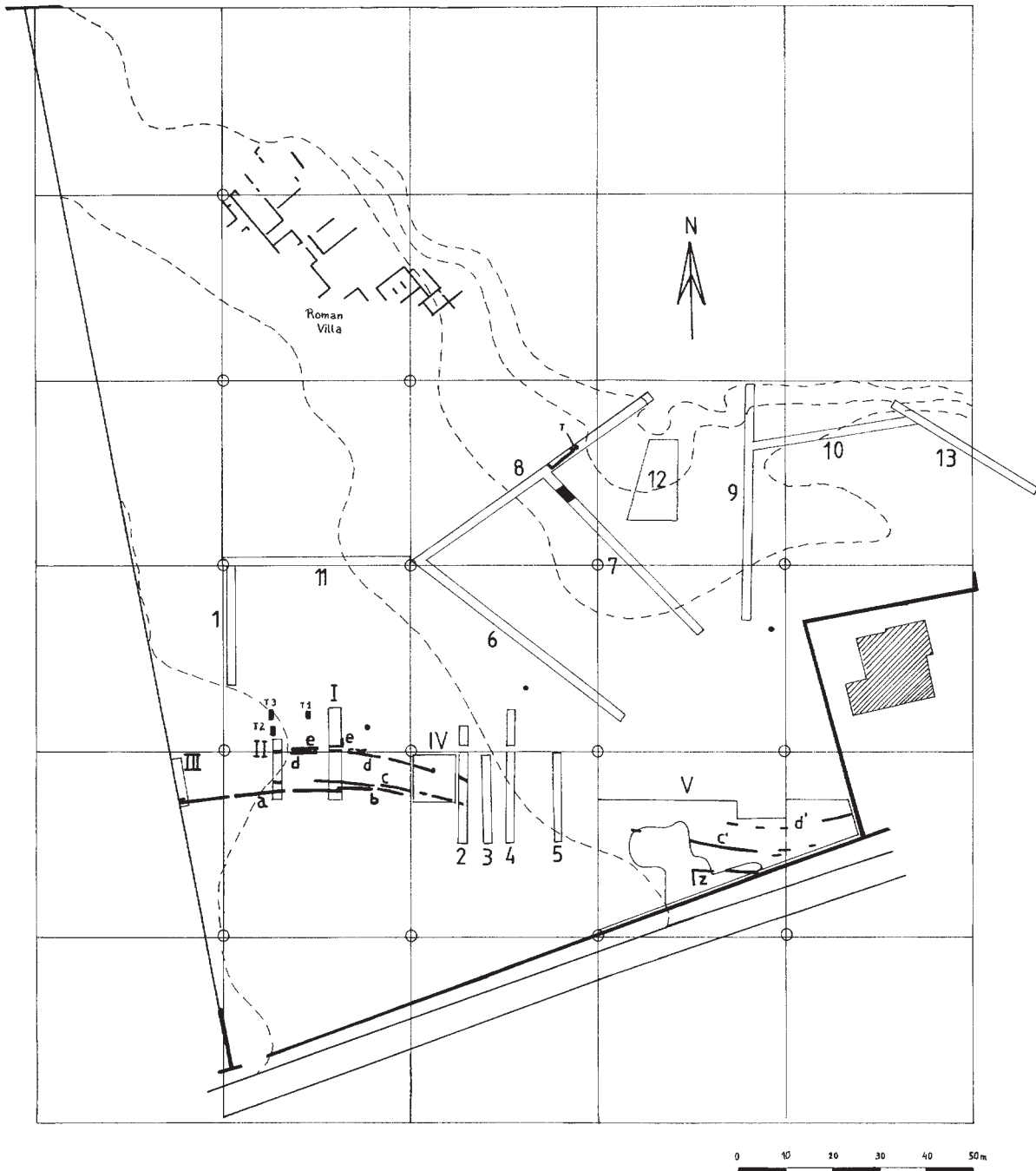


Fig. 2. Map of the Santarelli-area with the various excavation trenches indicated

were scattered pebbles and some spots consisting of small chunks of white tufa stuck together. The structure of these spots suggests that they are the remains of a pavement, which has largely disappeared. On the basis of the most recent shards, the filling between the walls can be assigned to the Archaic period.

Stretches of two other walls were cleaned in the northern part of section I (*e*). They lie in a right angle to each other and are, like walls *c* and *d*, constructed of large blocks of brown tufa. (Fig. 7) These walls (*e*) probably belong to a rectangular structure dating from the same period as the two other walls (*c*, *d*). The cleaning of the area between sections I and II revealed the continuation of the east-west wall of this structure towards the west. Close to its southern side there was also a stretch of another wall, which can be identified as belonging to wall *d*.

A pavement appeared in the upper stratum of the northern part of section I as well as directly to the west of it, under the humus. It consisted of a thick layer of a very hard 'tufo battuto', mixed and covered with pebbles, of which about 20 m<sup>2</sup> remained, and partly covered wall *e* in such a way that it seemed to be part of its construction (Fig. 7). The pavement rested on a greyish layer containing many small fragments of storage jars which seemed to have intentionally been laid there. The greyish stratum, in its turn, was directly above the virgin soil. Lastly, the junction of walls *a* and *b* was brought to light in the southern part of section I (Fig. 8). Despite their blocks of different types of tufa, both walls seem to belong to the same phase of construction. Presumably the brown tufa blocks of wall *b* were first used in an earlier structure and then reutilized at the time when the white wall (*a*) was built. The excavation between walls *a/b* and wall *c* revealed that wall *c* stood in a clearly defined foundation ditch and that it was built earlier than walls *a/b*. An important find was a bucchero bowl dating from 550-525, which provides a secure *terminus post quem* for the construction of the brown wall. (Fig. 9).

In section II, probable extensions of walls *c* and *d* (or possibly *e*) were unearthed at approximately a metre below the surface level of the field. Further, important information regarding the chronological sequence of walls *a* and *c* was recorded, which included, among other things, red-orange tiles of a collapsed roof, datable to the end of the sixth or the beginning of the fifth century B.C., which covered Archaic wall *c*. The excavation in the central part of section II was discontinued slightly above the upper level of walls *c* and *d*. In the southern part, between walls *a* and *c*, we dug about 0.60 m. deeper,

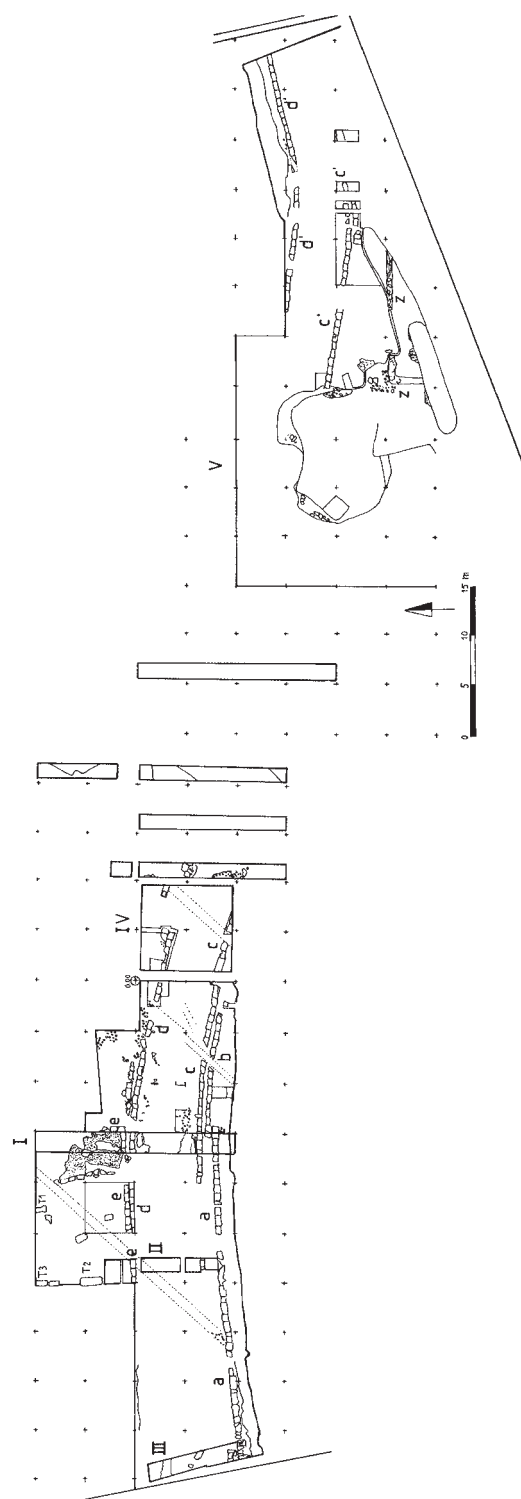


Fig. 3. Groundplan of the walls in the Santarelli-area brought to light during the excavation campaigns of 1984 and 1996





Fig. 4. Walls *a/b* and *c* from the east

uncovering the upper block of wall *c* and the entire inner face of wall *a*, which had three courses of white tufa blocks. Wall *a* appeared to be placed in a foundation trench, which on the south side was dug into the virgin soil and which on the north side partly transected the Archaic stratum belonging to walls *c* and *d*.

In section III, next to wall *a*, two large rectangular blocks of brown tufa belonging to another monumental wall, comparable to *b*, were discovered. Towards the west, this wall disappeared below the vineyard where, presumably, it is further preserved. The excavation of section III was discontinued at a depth of about 1.40 m. below the surface, at the base of wall *a*, which is about 1.00 m. high. The removed stratum consisted mainly of building materials like a large block of white tufa, mud brick and many late Archaic roof-tiles, all of which may be attributed to the period of the white wall. It is unclear whether these belonged to a collapsed building or were intentionally dumped on the spot. Presumably the

excavations planned for 1997 will reveal that in section III extensions of walls *c* and *d* lie at a deeper level.

The stratigraphical information of sections I-III indicates, for the time being at least, two successive phases: an Archaic one, consisting of walls *c* and *d* and probably structure *e*; and a second one, datable to the fifth century B.C., most likely linked with walls *a/b*. It seems very probable that the walls of the Archaic phase belong to a large, well-constructed road. Walls *c* and *d* would then be its lateral limits and have acted as heavy foundations. For the construction of the road, it seems, a ditch, about 10 metres wide, was dug into the virgin soil. The foundation walls were then built along each side of the ditch and the space between them was filled with different layers of materials which were chosen to facilitate drainage and, finally, paved. It is questionable, however, if this pavement is the same as the one which was discovered in the northern part of section I and which partly covered the walls of structure *e* and wall *d*. But if it is the same, walls *c* and *d* would have entirely been concealed below the pavement, acting exclusively as foundations for the road. On the other hand, the pavement in the northern section may stem from a later period, for instance, a rebuilding phase, which may be associated with wall *a/b*. A plausible theory for the function of the latter wall, however, is not yet at hand.

A second excavation area was opened in the south-east corner, where there was still a small part of the upper surface from before the deep-ploughing in 1983 (area V). Here, two parallel walls separated by an average distance of about 5 metres were traced for a length of approximately 50 metres (*c'*, *d'*). On the eastern side they were interrupted by the fence of the local school. Like the western walls *c* and *d*, they follow a curving course, though the curve is turned towards the south. Moreover, their construction is identical with that of walls *c* and *d*, on which ground it can be concluded that they are stretches of the two same walls; they are also constructed of brown tufa blocks and are identically placed in a very large ditch dug into the virgin soil. Notable are a few clusters of pottery, mostly fragments of small jars, which were found in the foundation trench at the north side of wall *d'*. As may also apply to the bucchero bowl from the foundation trench of wall *c* (see above), this pottery was conceivably used to make a propitiatory sacrifice to safeguard the foundations. All the finds date from the latter part of the sixth century.

As seen in walls *c* and *d*, these walls (*c'*, *d'*) show a comparable adjustment to the irregular course of



Fig. 5. Section I, from the north. In the foreground walls *e* and *d*; in the background walls *c* and *a/b*

the virgin soil. Towards the west, they follow its steadily decreasing level; towards the east, where wall *c'* disappears into the preserved higher part of the terrain, they rise proportionately. The western extension of wall *d'* could not be found, presumably because it was destroyed in 1983; for the immediate surroundings on the northern and western sides of *d'* had been levelled down to the virgin soil.

If walls *c-d* and *c'-d'* indeed belong to a single construction, we would expect to find a link or junction in the intervening area. Therefore the trenches nos. 2-5 were dug with a bulldozer. Extensions of walls *c* and *d* came to light in the trench farthest to the west (2), about 0.80 below the surface. The next two trenches (3-4), despite their considerable depth, contained no trace of a wall. But precisely on this spot, as could be seen in the stratigraphical profiles of trenches 3-4, the ancient surface of the land sloped considerably downwards. The way the road continued at this point is not yet known.

The two chronological phases identified in the western area also recurred in the southeast corner. On top of the preserved, higher part of the terrain, about one metre above the uppermost level of walls *c'* and *d'*, structure *z* was identified. One of its walls was documented in the 1984 excavations. A second wall was now found to lie at a right angle to it. Both walls were situated in a layer which contained many finds of domestic pottery datable to the entire fifth and fourth centuries B.C.

### Graves

Another area was investigated to the north of the western complex of walls. When the upper layer of humus was removed, the outlines of at least three 'fossa' graves appeared in the virgin soil, lying in a N-S direction. They resemble the graves of the Southwest Necropolis, excavated in 1981-1986, in the southwestern part of the ancient settlement<sup>6</sup>. Only one of the three graves was entirely excavated, T1; and like a type of grave in the Southwest Necropolis, it had ledges on the floor, on the long sides. It contained the poorly preserved remains of a child's skeleton which bore traces of two bronze fibulae. The excavation of another grave, T2, probably that of an adult because of its larger size (2.00 × 0.70 m.), could not be finished before the end of the excavations. The first stratum of its filling consisted of chunks of various kinds of tufa. A depth of 0.50 m. was reached.

### Trial trenches

The large area between the long walls and the Roman villa was also explored by means of trial trenches made with a bulldozer (nos. 1, 6-13). Most of them showed the virgin soil directly below the disturbed upper layer of humus and, at a deeper level, the original tufa table. Nothing came to light in trenches 1, 10, 11 and 13. Trenches 7 and 8 had some remains of the Roman period, by which the known extension of the Roman villa has increased by about 50 metres towards the south. Trial trench 7 contained a heavy concrete wall, almost 3 metres wide. In trial trench 8 the remains consisted of three concrete walls defining a rectangular room. They were built directly on the tufa table, which here lies about 0.25 m. below the surface.

A small grave containing a child was discovered to the east of the eastern Roman wall, at its base. It was devoid of objects and could therefore not be dated. The remains of the skeleton were rather well preserved. A second grave appeared in trial trench 9; similarly, it had only remains of a skeleton. Both

<sup>6</sup> Gnade 1992.





Fig. 6. Section I, the inner facing of wall d with a stratum of smoothed tufa at its base

graves were dug into the tufa table and may date from either the Roman period or even Medieval times<sup>7</sup>. In the other trial trenches, ancient traces clearly appeared only in 6 and 12. Besides various strata containing fragments of roof-tiles and pottery shards dating from the ninth century B.C. until the Roman period, 6 yielded a large worked block of white tufa and, at some distance from it, a very large vase of undetermined type, of either Hellenistic or Roman fabric. Lastly, at a depth of about 0.50 m., trial trench 12 contained a disturbed ancient layer with remains from various periods.

The importance of the discoveries made on Santarelli's land is beyond dispute. Unexpected, because not visible in aerial photographs, these ancient constructions are, in fact, our first factual evidence of ancient occupation outside the acropolis during the Archaic and post-Archaic periods.

Without exaggeration, they make a major contribution to our restricted knowledge of Satricum from an urbanistic point of view. So far, all estimates of

the urban area and its surroundings, the fortifications and the road system have largely been based on the drawings and photographic documentation of the remains recovered during the excavations at the end of the nineteenth and the beginning of the twentieth centuries as well as on the descriptions of whatever could still be seen of those remains in the early nineteen-sixties<sup>8</sup>. But owing to the large scale topographical transformation of the area and the destruction of more than 80 percent of ancient Satricum by

<sup>7</sup> Cf. the discovery of other skeletal remains during the excavation of the Roman villa in 1984, Heldring 1985, 74.

<sup>8</sup> On the surroundings of Satricum: Barnabei & Mengarelli 1896, 197-200; Mengarelli 1898, 166-171; on the *agger* and the various entrances, the road system in the necropolis and the urban area of Satricum see the map of Mengarelli; cf. aerial photograph of Satricum taken in 1936 (Castagnoli 1963, fig. 1; Schmiidt 1970, pl. 21; Waarsenburg 1995, pl. 6). Further, Castagnoli 1963, 505-518 (with, among other things, descriptions and photographs of the *agger*, pp. 511-512, figs. 7-9; on the road-system, pp. 515-516); cf. also *CatLazio primitivo*, 325; Stibbe 1981, 305-309; Guaitoli 1984, 370; *CatTarquini* 1990, 231.



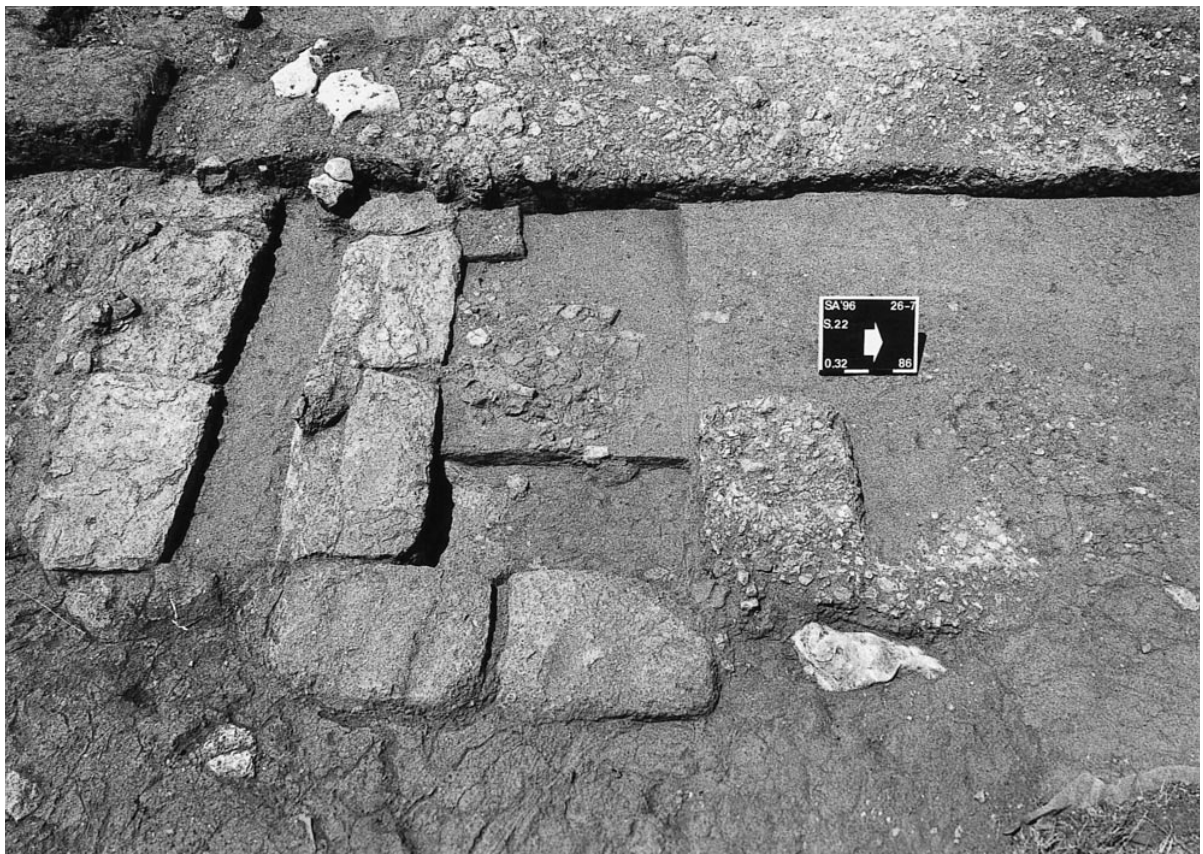


Fig. 7. Section I, from the east: northern part showing the sectioned pavement which partly covers the east-west wall of structure e; to its south two blocks of wall d

agricultural activity, all hope of a better understanding of its urban organization had been lost<sup>9</sup>. The same regrettable situation pertains to many Latial sites. The excavations on Santarelli's land provide a small opening in this archaeological impasse. At the same time they supply much new data which may contribute to the discussion about the post-Archaic continuation of the settlement<sup>10</sup>.

Based on what has so far been discovered, it can be maintained that the ancient road, as discussed, was constructed with great care. This can be seen in, among other things, the almost equal heights of the foundation walls, their neatly hewn blocks of very regular size (c.  $0.60 \times 0.80 \times 0.50$ ), and the attention given to small details. Both the construction technique and type of pavement, consisting of tufa chunks and pebbles, immediately call to mind the road on the Satricum acropolis in front of the temples, excavated at the end of the nineteenth century<sup>11</sup>. More recent exploration reconfirming that road's existence has led to the discovery of a stretch

of another 20 metres of it, the pavement of which very much resembles the one lying between walls c and d<sup>12</sup>. Therefore we are conceivably dealing with

<sup>9</sup> The enormous extent of the destruction caused in the nineteenth-sixties has been noted on various occasions; e.g. Castagnoli 1963, 505, 516; Guaitoli 1984, 370, note 49, 'la totale cancellazione dell'area urbana, ad eccezione del settore sud-est dove è stata recentemente scavata una necropoli'.

<sup>10</sup> Cf. Stibbe 1981, 305-309; Attema *et al.* 1992, 75-86 (specifically p. 80); Nijboer *et al.* 1995, 1-38.

<sup>11</sup> Barnabei & Mengarelli 1896, 193-194, with plan on p. 192.

<sup>12</sup> During the excavations of the Dutch Institute at Rome in the area before the latest temple, the pebble-pavement belonging to this road could be verified, as well as the monumental curb wall bordering the street on its north side (to be published). The excavators from Groningen University established three different road building techniques which they connected with three consecutive main building phases: Orientalizing, Archaic and post-Archaic (5th century) (Maaskant-Kleibrink 1991, 61; Maaskant-Kleibrink 1992, 18-28; cf. the rather non-committal interpretation of the data gathered in the nineteenth century in relation to the results of the present excavations on pp. 20-21). They also discovered the extension of the road towards the east, excavating a stretch of about 20 metres; *ibid.*, 28, fig. IV, pl. 5.



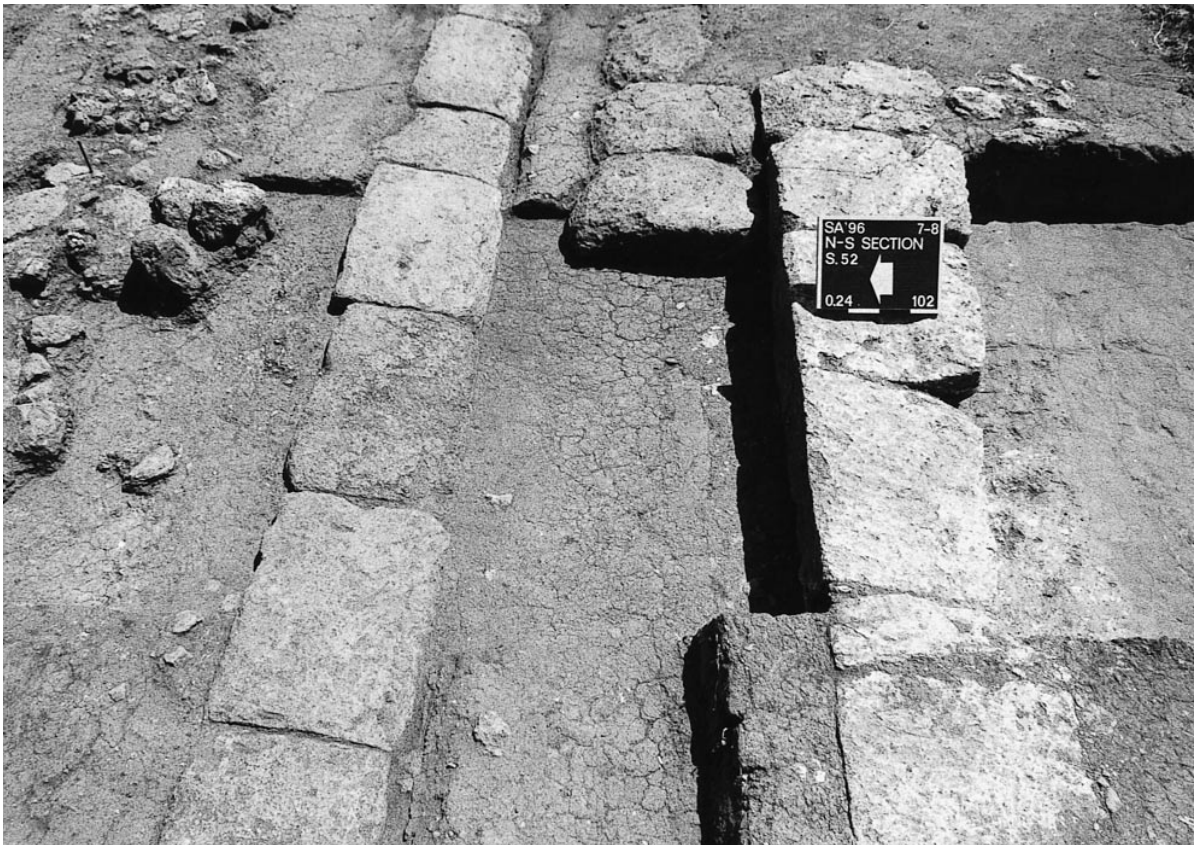


Fig. 8. Section I, from the west: southern part showing wall c (to the left) and the junction of walls a and b.

a single main thoroughfare leading to the acropolis which ascended its northwestern flank where, becoming a 'Via Sacra', it continued in a south-east direction in front of the temples. It also seems quite possible that this road was an extension of the main thoroughfare approaching Satricum from outside its wall, passing through the Northwest Necropolis and coming from the direction of Ardea<sup>13</sup>.

A parallel can be cited. In 1967, during an emergency excavation, part of a monumental road was discovered which connected Cerveteri with its harbour Pyrgi, situated at about 4 km from the Pyrgi sanctuary<sup>14</sup>. As at Satricum, the road was bordered by walls of large tufa blocks which had a comparable structural function. Further, they were identically covered with a pavement, in this particular case consisting of two layers attributed to different periods: the lowest one – early Archaic – was composed of pebbles, sand and clay; the upper one – first half of the fifth century – consisted of stones and pebbles. In cross-section, the road, which was more than 10 metres wide, showed a strongly concave profile

between two lateral inclined planes which were identified as sidewalks for pedestrians. It can therefore be tentatively proposed that the pavement found in the northern part of section I, associated with walls e, served a similar purpose.

Another remarkable phenomenon recorded on Santarelli's land consists of the three graves situated along the north side of the ancient road. Presumably they belong to a much larger complex of graves and can therefore be regarded as evidence of a third necropolis at Satricum which dates from the fifth-century. It is striking that each of these necropoles

<sup>13</sup> Barnabei & Mengarelli 1896, 199, reported that the necropolis was intersected by various roads, of which only two are indicated on the plan in their fig. 3. See the RAF aerial photograph of Satricum taken in 1936 for a clear view of the necropolis road (published in Castagnoli 1963, 504, fig. 1; Schmiedt 1970, pl. 21; Waarsenburg 1995, 41, pl. 6); cf. also the reconstruction of the road system around and in Satricum on a map of the Istituto Geografico Militare (IGM), made in 1936 and published in Waarsenburg 1995, 39, pl. 4.2.

<sup>14</sup> Op. cit., note 5.

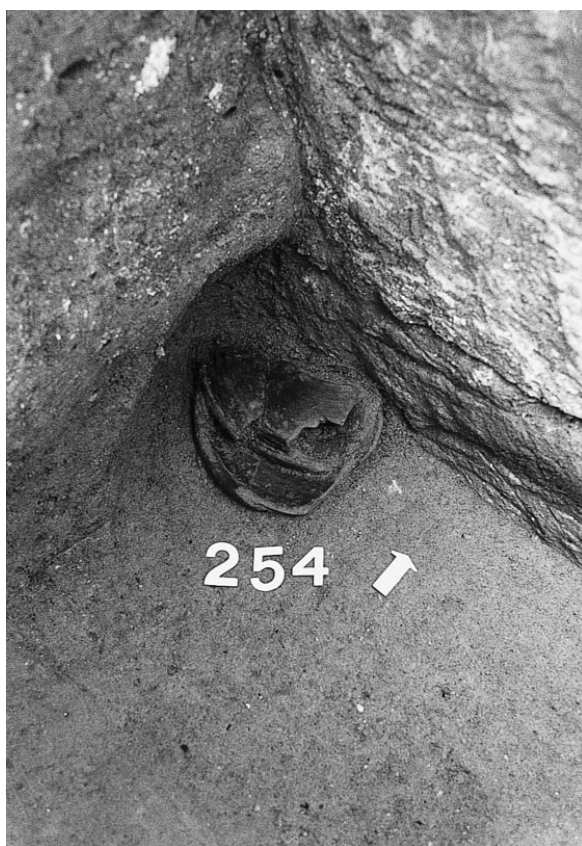


Fig. 9. Bucchero bowl in the foundation trench of wall c

is close to a road<sup>15</sup>. The Southwest Necropolis is bordered on its eastern side by the main road which entered Satricum from the south<sup>16</sup> and the graves on the acropolis are laid out along the Via Sacra. The important inference here is that these roads must still have been in use during the fifth century B.C.<sup>17</sup>

To date, the Santarelli property is the only part of Satricum which may provide stratigraphical evidence that the site was continuously occupied into the post-Archaic period. Although it is premature to draw any definite conclusions, the amount of fifth and fourth-century pottery collected so far in the upper strata is not negligible. At any rate, this pottery seems to allow for a less restricted estimate of the continued occupation of the site than has often been put forward. Most recently, for instance, as based on survey finds collected in an area adjoining the original course of the *agger*, a rather simplified reconstruction of the post-Archaic settlement has been proposed<sup>18</sup>. According to the surveyors, the settlement was limited during the fifth and fourth

centuries B.C. to the area of the *agger* itself<sup>19</sup>. However, in 1994, during a very short and hastily executed survey of the Santa Lucia area, other material was collected which also seems, instead, to indicate a much longer period of occupation of the entire urban area. During this rudimentary survey, which was organized after the new owner of the land knowingly destroyed what might have remained of the urban area by illegally carrying out deep-ploughing, many fragments of roof-tiles and pottery fragments were noted. Their number would certainly have been much greater if we had not been almost immediately expelled from the land. These finds range from the seventh century until the fifth and early fourth centuries B.C., the latest of which can be characterized as domestic ware.

The existence of a third necropolis from the fifth century may be regarded by some as further evidence for dispersed habitation of the site<sup>20</sup>. Very possibly, however, dispersed occupation was a long-standing feature of Satricum. The possibility is suggested by the topography of Satricum itself: marked by three distinct plateaus of tufa the town may always have consisted of three concentrations of settlement. However, this question must remain open as long as we lack firm evidence of Archaic and post-Archaic dwellings found *in situ*. As yet, the only excavated traces of habitation in the urban area known to us are those indicated in the southwestern section of Mengarelli's map as 'avanzi di antiche abitazioni'. Unfortunately, neither descriptions nor finds are available.

A third and provisionally last excavation on Santarelli's land will take place in 1997, when we hope to collect more data concerning Satricum's chronology and the relation between its various kinds of occupation. Based on present information, we can suppose that this area of ancient Satricum will help us to answer more questions about the town's history. The area can perhaps be likened to a bridge which spans the gaps not only between the urban settlement and the acropolis, by means of the road,

<sup>15</sup> For the Southwest necropolis see M. Gnade 1992; and for the fifth-century graves on the acropolis see Maaskant-Kleibrink 1992, 101-105.

<sup>16</sup> Although this road has not been excavated, its existence can be inferred from Mengarelli's plan.

<sup>17</sup> As suggested earlier with regard to the Via Sacra on the acropolis, in Maaskant-Kleibrink 1992, 22.

<sup>18</sup> Attema et al. 1992, 75-86.

<sup>19</sup> They neglected the finds of pottery from the Santarelli property which date from the sixth and fifth centuries and which were referred to in the preliminary reports (*Quadaei* 11, 1985, 75; *MededRom* 47, 1987, 237).

<sup>20</sup> Cf. Nijboer et al. 1995, 2-4 (on the topography of the site in the post-Archaic period).



but also between the two main fields of research at Satricum, by means of the post-Archaic finds: the acropolis, where post-Archaic activity has so far been encountered mainly in the form of votive contexts, and the rather isolated Southwest Necropolis dating from the fifth century. Further, the stratigraphy will probably provide a refinement of the relative chronology of the artefacts found at Satricum and elsewhere in Latium from the sixth and fifth centuries, notoriously complex centuries which are archaeologically difficult to grasp.

#### BIBLIOGRAPHY

- Attema, P.A.J. *et al.* 1992, Il sito di Borgo Le Ferriere 'Satricum' nei secoli V e IV a.C. I Volsci. *QuadAEI* 20.1, 75-86.
- Barnabei, F. & A. Cozza 1896, Conca. *NSc*, 197-200.
- Barnabei, F. & R. Mengarelli 1896, Conca. *NSc*, 190-200.
- Castagnoli, F. 1963, Satrico. *L'Universo* 43, 504-518.
- CatLazio primitivo* 1976, Satricum. *Civiltà del Lazio primitivo* 323-346 (Exh. cat. Rome), Rome.
- CatSatricum* 1985, *Nieuw licht op een oude stad. Italiaanse en Nederlandse opgravingen in Satricum* (Exh. cat. Leiden). The Hague.
- CatTarquini* 1990, *La grande Roma dei Tarquini* (Exh. cat. Rome), Rome.
- Colonna, G. 1967, L'ingresso del santuario, la via Caere-Pyrgi ed altri problemi. *ArchCl* 19, 342-348.
- Colonna, G. 1968, La via Caere-Pyrgi, in *La via Aurelia da Roma a Forum Aureli*, *QuadlStTopA* 4, 75-87.
- Colonna, G. 1970, Pyrgi. Scavi del santuario etrusco (1959-1967), *NSc Suppl.*
- Gnade, M. 1992, *The Southwest Necropolis of Satricum. Excavations 1981-1986*, Amsterdam.
- Gnade, M. 1997, Le ricerche olandesi a Satricum dal 1977 ad oggi. *MededRom* 56 (in press).
- Guaitoli, M. 1984, Urbanistica, *QuadAEI* 8, 364-381.
- Heldring, B.H. 1984, La sesta e la settima campagna di scavo dell'Istituto olandese di Roma a Satricum, *QuadAEI* 8 (1984) 98-103.
- Heldring, B.H. 1985, L'ottava campagna di scavo dell'Istituto olandese a Satricum, *QuadAEI* 11, 72-76.
- Heldring, B.H. 1987, La nona campagna di scavo dell'Istituto olandese di Roma a Satricum, *QuadAEI* 14, 285-291.
- Heldring, B.H., C.M. Stibbe 1987, Breve comunicato sulla settima e ottava campagna di scavi a Satricum eseguite nel 1983 e nel 1984, *MededRom* 47, 231-239.
- Maaskant-Kleibrink, M. 1991, Early Latin settlement-plans at Borgo Le Ferriere (Satricum), *BABesch* 66.
- Maaskant-Kleibrink, M. 1992, *Settlement excavations at Borgo Le Ferriere <Satricum>*, II, Groningen.
- Mengarelli R. 1898, Conca. *NSc* 166-171.
- Nijboer, A.J. *et al.* 1995, Notes on the pottery production at Satricum in the 5th and 4th centuries BC, *Meded-Rom* 54, 1-38.
- Stibbe, C.M. 1981, Nuovi e vecchi dati su Satricum, *QuadAEI* 5, 305-309.
- Stibbe, C.M. 1983, La quinta campagna di scavo dell'Istituto olandese di Roma a Satricum, *QuadAEI* 7, 48-53.
- Schmiedt, G. 1970, *Atlante aerofotografico delle sedi umane in Italia II: Le sedi scomparse*, Florence.
- Waarsenburg, D.J. 1995, *The Northwest Necropolis of Satricum. An Iron Age Cemetery in Latium Vetus*, Amsterdam.

# Die Maßeinheit des Schiffsarsenals des Philon im Piräus

Rolf C.A. Rottländer

Der für die metrologische Forschung glückliche Umstand, daß für noch heute überprüfbare Gegebenheiten aus der Antike Längenangaben überliefert sind, gehört zu den ausgesprochenen Seltenheiten. Beispielsweise zählt hierzu die Angabe Herodots, daß die Basislinie der Cheopspyramide 8 Plethren lang sei. Heute ist diese Linie etwas kürzer, weil die Deckplatten aus Kalk nicht erhalten sind. In der Antike jedoch waren es 230 m, genauer 230,38 m, weil es genau 440 ägyptische Königsellen zu 523,6 mm waren.

Da 8 Plethren 800 Fuß sind (Herodot), errechnet sich für den Fuß eine Länge von 287,98 mm. Wenn man, wie v. Gerkan und in seiner Nachfolge die meisten Deutschen Archäologen, nur drei im griechisch-hellenistischen Raum verwendete Längenmaßeinheiten anerkennen will, nämlich

den ionischen Fuß zu	348,672 mm
den dorisch-pheidonischen Fuß zu	326,88 mm
und den attisch-römischen Fuß zu	294,192 mm,

dann ergibt die Angabe von Herodot keinen Sinn. Wie ich aber vor einigen Jahren bereits publiziert habe (1993), gibt es eine Fuß-Maßeinheit von 288,0 mm Länge, die mit wechselnder Benennung, u.a. Baumaß, in, bezogen auf die Pyramiden, jüngerer Zeit und in Deutschland bis ins Mittelalter und weiter verwendet wurde (Code A3).

Plinius gibt für dieselbe Distanz 783 Fuß an. Daraus errechnet sich für den Fuß eine Länge von 294,23 mm, und scheinbar ist v. Gerkan bestätigt. Aber schon Hultsch und Dörpfeld nehmen (zu Recht, wie später dargelegt wird) den römisch-kapitolinischen Fuß mit 296,2 mm an, und vor nicht zu langer Zeit hat Haselberger am Didymaion diesen Wert mit 296,4 ± 0,4 mm bestätigt. Was hier mit rund 294 mm überliefert ist, ist nicht der römische, sondern der Punische Fuß zu 294,0 mm (Code F1), denn Plinius hat seine Angabe von jenseits des Mittelmeers erhalten.

Wenn man die im gegebenen Zusammenhang gemachte Angabe Plinius', *altitudo a cacumine ad solum pedes DCCXXV* naiv als 725 Fuß Höhe von der Spitze zum Boden übersetzt und von der Höhe der Pyramide in ihrem heutigen ruinösen Zustand, nämlich 137 m ausgeht, erweist sich Plinius scheinbar wieder als falsch, denn  $725 \times 0,294 \text{ m} = 213 \text{ m}$  und nicht 137 m. Mit *altitudo a cacumine* ist jedoch etwas anderes gemeint, nämlich die nach oben

schräg zulaufende Spitze. Wir würden von der Kante reden.

Aus der Seitenlänge der Pyramide (s. o.) errechnet sich die Diagonale des Grundrisses  $d$  als

$$230,38^2 + 230,38^2 = 106\,149,88 = d^2$$

$$\text{daraus:} \quad d = 325,807 \text{ [m]}$$

Die Länge der Kante  $k$  ergibt sich als Wurzel aus dem Quadrat der halben Diagonalen plus dem Quadrat der Höhe. In Zahlen:

$$\begin{aligned} d : 2 &= 162,904 \text{ [m]} \\ 137^2 + 162,9^2 &= 45\,306,47 = k^2 \\ k &= 212,85 \text{ [m]} \end{aligned}$$

Das stimmt mit der Angabe von Plinius überein, und wenn man aus dem heutigen  $k$  auf die Fußeinheit des Plinius zurückrechnet, folgt  $212,85 : 725 = 0,29359 \text{ [m]}$ , gerundet 293,6 [m]. Das zeigt, daß die Angabe des Plinius zutreffend ist, daß sie in Punischen Fuß gerechnet ist und daß die Pyramide noch nicht so weit wie heute abgetragen war.

Eratosthenes hat sich u. a. dadurch einen Namen gemacht, daß er als erster den Polumfang der Erde berechnete. Seinen ursprünglichen Wert von 250 000 Stadien verbesserte er auf 252 000 Stadien.

In unseren Tagen ist man voll des Lobes, wie nahe Eratosthenes an den richtigen Wert herangekommen sei. Dennoch geschieht Eratosthenes dabei Unrecht, denn er hat genauer gearbeitet, als man ihm heute zubilligt. Weil er Grieche ist, unterstellt man ihm, er habe mit irgendeiner der griechischen Stadienlängen gerechnet (aus der man dann heute wechselnde Angaben in Meter erhält). Das verkennt die geschichtliche Situation. Ägypten war zunächst nach ägyptischen Maßen vermessen. Aber einige Generationen vor Eratosthenes war Ägypten unter persische Oberhoheit geraten. Die Perser waren sehr genau mit der Landvermessung, schon wegen ihres berühmten Wegenetzes, und brauchten für ihre zentralisierte Verwaltung eine einheitliche Aufmessung. Deshalb standen Eratosthenes nur Entfernungsangaben auf der Basis der persischen Vermessung zur Verfügung, und das waren Stadien, denen der Gudea-Fuß mit 264,6 mm (Code D1) zugrunde lag. Dieser Fuß bildete noch viele Jahrhunderte später die Basis nicht nur des persischen Maßwesens. (Er läßt sich beispielsweise in Rom zur Zeit des Augustus nachweisen und in Orvieto im 13. Jhd. A.D.). Legt man den Angaben des Eratosthenes diesen Fuß zugrunde,

dann zeigt sich, daß Eratosthenes so genau gearbeitet hat, wie das ohne besondere optische Hilfsmittel nur eben möglich ist:

1 Stadion sind 100 Klafter, dieses sind 6 Fuß.  
 So sind 252 000 Stadien des Gudea-Fußes  
 $6 \times 100 \times 252\,000$  Fuß oder  $6 \times 2,52 \times 100 \times 100\,000$   
 Fuß, dieser zu 0,2646 m  
 Das ergibt  $4,0008 \times 100 \times 100\,000$  m oder  $4,0008 \times 100 \times 100$  km  
 Uns geläufiger ist die Angabe 40 008 km.  
 Unsere heutigen (ca. 1950) Berechnungen ergeben 40 009,153 km.

Auch für das Erechtheion in Athen gibt es eine sogenannte Bauinschrift. Dörpfeld (1882) hatte zunächst (und das ist wichtig) den römischen/attischen Fuß für das Erechtheion angenommen. Dann aber hat er rund 8 Jahre später seine eigenen Angaben widerrufen und unter Einbeziehung der Angaben aus der Bauinschrift den dorisch-pheidonischen Fuß aus der Taufe gehoben (Dörpfeld 1890). Wie ich an anderer Stelle ausführlich auseinandergelegt habe (Rottländer 1991), irrte er dabei, denn die Angaben der Bauinschrift setzen den sogenannten kretisch-äginetischen Fuß voraus. Dieser Fuß, der wie der Drusianische Fuß 18 digiti zu 18,51 mm hat – für letzteres ist Hygin Kronzeuge, obwohl man an seiner klaren Aussage immer wieder herumdeutelt, statt sie einfach zur Kenntnis zu nehmen – wurde aus heute nicht mehr aufklärbaren Gründen von Dörpfeld nicht berücksichtigt. Weil Dörpfeld aber selbst aus den *unverbauten* Blöcken kein Längenmaß herleiten wollte (und vernünftigerweise auch nicht konnte), hat er *eine* Strecke, nämlich eine Wandlänge mit siebeneinhalb Quaderlängen, für die er 9,83 m gemessen hatte, als Ausgangsbasis genommen. Für die *unverbauten* Quader hätten das in Übereinstimmung mit der antiken Baukommission 30 Fuß sein sollen, und deshalb rechnet Dörpfeld:

$$9830 \text{ mm} : 30 \text{ Fuß} = 327,7 \text{ mm/Fuß}$$

Nun wurden aber die aus dem Steinbruch herangebrachten Quader zur Verwendung im Bau noch beigearbeitet, was wegen allfälliger Transportschäden üblich war, und deshalb hat die ins Auge gefaßte Wandlänge nur 29,5 Fuß Länge. Daher errechnet sich:

$$9830 \text{ mm} : 29,5 \text{ Fuß} = 333,2 \text{ mm/Fuß}$$

Dieser Wert ist ganz genau der Drusianische Fuß, Code G. – Es ist natürlich methodisch falsch, aus *einer* einzigen Strecke eine neue Maßeinheit ableiten zu wollen, schon deshalb, weil die Ausgangslänge nicht genügend genau zu messen ist. So sind denn auch in der Nachfolge immer wieder ‘Präzisierungsen’ vorgenommen worden, und zwar in

Größenordnungen, die den ursprünglichen Ansatz ad absurdum führen. Dennoch hat Dörpfeld zahlreiche Nachfolger gefunden, und diese Maßeinheit gilt heute in weiten Kreisen als die am besten belegte – kein Wunder, wenn sie den jeweiligen Zwecken immer wieder angepaßt wird.

\*  
\* \* \*

Nun ist schon seit langem die Bauinschrift des Schiffarsenals (Skeuothek) des Philon im Piräus bekannt, aber erst in jüngster Zeit wurde in dem entsprechenden Gelände gegraben, und die aufgefundenen Baureste wurden als diejenigen der Skeuothek angesprochen. Damit schien nun endlich die Gelegenheit gegeben, durch Vergleich der Bauinschrift mit dem Ausgrabungsbefund den dorisch-pheidonischen Fuß zu beweisen. W. Hoepfner legt diese Maßeinheit den von ihm herausgestellten ‘Typenhäusern’ zugrunde, und G. Steinhauer geht selbstverständlich davon aus, daß diese Maßeinheit um 330 v. Chr. als Bemessungsgrundlage für die Skeuothek verwendet wurde. In seinem Beitrag ‘Piräus’ im Buch von W. Hoepfner und E.-L. Schwandner bringt er denn auch einige Abmessungen, die auf den dorisch-pheidonischen Fuß, den er zunächst mit 327,5 mm ansetzt, zu passen scheinen:

Fundament eines Pfeilers	1,15 m	entspr. 3 Fuß + 1 Palaiste
	1,30 m	4 Fuß
Lichte Breite des inneren Schiffs	6,55 m	20 Fuß
Breite der Seitenschiffe	4,90 m	15 Fuß
Gesamtbreite einschl. Außenmauern	18 m	55 Fuß

Hieraus folgt:

1150 mm	: 3,25 Fuß	=	353,85 mm/Fuß
1300 mm	: 4 Fuß	=	325
6550 mm	: 20 Fuß	=	327,50
4900 mm	: 15 Fuß	=	326,67
18000 mm	: 55 Fuß	=	327,27

oder als Mittelwert:  $332,06 \pm 10,93 \text{ mm/Fuß}$ . n = 5

Weil das nun nicht mehr so sonderlich gut paßt, wird im betroffenen Abschnitt die Maßeinheit mit 327 mm angegeben. – Nimmt man das Außenformat der Bauinschrift mit hinzu – das ja auch nach dem dorisch-pheidonischen Fuß bemessen sein muß, falls dieser Verwendung fand; es beträgt  $1160 \times 540 \text{ mm}$  – so ergibt sich:

1160 mm	: 327,5 mm	=	3,54 gerundet 3,5 Fuß
540 mm	: 327,5 mm	=	1,65 gerundet 1,67 Fuß

Daraus folgt:  $1160 \text{ mm} : 3,5 = 331,4 \text{ mm/Fuß}$   
 $540 \text{ mm} : 1,67 = 323,9 \text{ mm/Fuß}$ .



Fügt man das noch den obigen Daten hinzu, so folgt als Mittelwert:

$$x = 330,8 \pm 9,66 \text{ mm/Fuß} \quad \text{VK} = 2,92 \% \quad n = 7$$

Das ist nicht gerade überzeugend für eine Fußeinheit von 327,5 mm Länge. Was einigermaßen zur postulierten Maßeinheit paßt, sind nur die drei Maße von 15, 20 und 55 Fuß Länge.

Die hier geäußerten Vorbehalte sind nun nicht aus der Luft gegriffen. In der interdisziplinären Projektgruppe 'Maße - Musik - Mathematik' (Rottländer 1991<sup>2</sup>) werden seit Jahren dingliche vormetrische Maßstäbe gesammelt, registriert und ausgewertet. Merkwürdigerweise gibt es aber unter nun schon mehr als 500 vormetrischen Skalen nicht eine einzige mit dem dorisch-phaidonischen Fuß. Aus dieser Sammlung heraus ist auch bekannt, daß antike Längenmaßeinheiten genauer als  $\pm 0,2\%$  festliegen, und daß der römische Fuß mit 296,2 mm sauber vom Punischen Fuß mit 294,0 mm getrennt werden kann.

Ist also in der Skeuothek eine Fußmaßeinheit faßbar, zu der bisher zufällig kein Maßstab aufgetaucht ist? Als die Ausgrabungen der Skeuothek liefen, hat de Waele noch einmal die Inschrift zu diesem Schiffsarsenal übersetzt und analysiert und hat nur aus ihr Zahlenangaben errechnet, die selbstverständlich in Fuß angegeben sind. Welche Länge dieser Fuß hat, bleibt natürlich offen.

Diese Ausführungen von de Waele erfahren durch unsere Untersuchungen eine Stütze, an die de Waele nicht gedacht haben kann, die also unabhängig ist.

Die nachfolgenden Überlegungen folgen beim griechischen Text der professionellen Übertragung durch de Waele (s. o.). Ihr ist zu entnehmen, daß die Außenmaße des Baus 55 Fuß in der Breite und 4 Plethren in der Länge betragen sollen. Sowohl Steinhauer als auch de Waele vertreten die Auffassung, daß die Angabe 4 Plethren ein überschlägiges Maß ist, d.h. daß es nur ungefähr 400 Fuß sind. Dem wird beigespflichtet. Dann ist zu erwähnen, daß der griechische Text keine Angabe über die Interkolumnien macht. Weiter ist dem Text zu entnehmen, daß in Längsrichtung, den Mittelgang begleitend, je 35 Säulen stehen sollen. (Es handelt sich wirklich um Säulen und nicht Pfeiler, wie Steinhauer schreibt. Im griechischen Text steht  $\kappa\iota\omega\nu$ ;  $\sigma\tau\eta\lambda\eta$  könnte sowohl Pfeiler als auch Säule bedeuten, aber  $\kappa\iota\omega\nu$  ist die Säule).

In ihrer Auffassung, welchen Achsabstand diese Säulen haben sollen, unterscheiden sich de Waele und Steinhauer grundsätzlich. Steinhauer glaubt, einen Achsabstand von 3,5 m an zwei Säulenpaaren ermittelt zu haben, die 10,75 Fuß entsprechen sollen.

Allerdings gibt er keine +/- - Werte an, so daß die Genauigkeit unklar bleibt: die cm-Dezimalstelle ist als unsicher anzusehen, und das hat Konsequenzen. Offensichtlich rechnet er aber  $3500 \text{ mm} : 327,5 \text{ mm/Fuß} = 10,68 \text{ Fuß}$ . Das rundet er auf 10 Fuß 3 Palaiste auf (s. o.). Durch diese Rundung ergibt sich:

$$3500 \text{ mm} : 10,75 \text{ Fuß} = 325,6 \text{ mm/Fuß.}$$

Zu der auf Seite 44, 2. Spalte von Steinhauer angegebenen Fußlänge von 327,5 mm besteht ein Unterschied von

$$327,5 \text{ mm} - 325,6 \text{ mm} = 1,9 \text{ mm oder } 0,58\%.$$

Geht man von der von Steinhauer angegebenen Fußlänge von 327,5 mm aus, dann müßte der Achsabstand

$$10,75 \times 327,5 \text{ mm} = 3520,6 \text{ mm sein.}$$

Steinhauer findet nun bei der Ausgrabung eine Teillänge des Schiffsarsenals von 82,60 m Länge. Das Nordende kann er freilegen. Indem er diese Länge in Achsweiten von 3,5 m Länge unterteilt, findet er 22 gleiche Achsweiten und ein Kopfstück anderer Länge. Folgt man dem Ansatz, daß die Fußeinheit wirklich 327,5 mm lang ist, errechnet sich das Kopfstück folgendermaßen:

$$82,60 \text{ m} - 22 \times 3,521 \text{ m} = 82,60 \text{ m} - 77,454 \text{ m} = 5,146 \text{ m.}$$

Diese Länge in Fuß umgerechnet ergibt die (krumme) Zahl von 15,71 Fuß.

Die Skeuothek hat 35 Säulen mit 34 Achsweiten, wozu noch die beiden Kopfenden im Norden und Süden kommen. In die Anzahl von Fuß umgerechnet, die sich aus der Angabe von Steinhauer dafür ergibt, ist das:

$$34 \times 10,75 \text{ Fuß} + 2 \times 15,71 \text{ Fuß} = 365,5 \text{ Fuß} + 31,42 \text{ Fuß} = 396,92 \text{ Fuß.}$$

An den in der Inschrift genannten 400 Fuß fehlen also gut 3 Fuß oder 1,01 m. Auch wenn die Angabe 4 Plethren nur überschlägig ist, erscheint diese Abweichung nun doch zu groß zu sein. Zudem fehlt jede weitere Begründung dafür, daß die Kopfenden gegenüber den Achsweiten erweitert sein sollen, denn die Ausgrabung hat am Nordende offensichtlich keine Stylobate mehr zutage gefördert. Es fehlt offensichtlich auch jede Spur von der Mauer, die nach Bauinschrift von der Tür aus nach innen umbiegen und bis zur ersten Säule laufen soll: nichts Aufgehendes konnte mehr freigelegt werden.

Steinhauer rechnet aber (S. 44-46) etwas anders: "Der Abstand vom 1. Pfeiler ... bis zur Mauer der nördlichen Schmalseite der Skeuothek beträgt von Achse zu Achse gemessen 82,60 m. Dieses Maß muß in 22 Pfeilerabstände à 3,5 m geteilt werden,

wobei dann ein Rest von 5,5 m übrig bleibt ...” In Zahlen ist das  $22 \times 3,5 \text{ m} = 77 \text{ m}$ , dazu 5,5 m für das Kopfende = 82,50 m. – Offensichtlich kommt es Steinhauer auf 10 cm gar nicht an!

Eine Überschlagsrechnung führt zu einem anderen Ergebnis: Zu 35 Säulen gehören, die Abstände zu den Wänden an den Kopfenden mit einbezogen, 36 Zwischenräume. Etwa 400 Fuß soll der Bau lang sein. Unter der Voraussetzung, daß alle Zwischenräume gleichlang sein sollen, folgt

$400 \text{ Fuß} : 36 = 11,11 \text{ Fuß}$  als Abstand der Säulenachsen.

Nun zeigt der griechische Text, daß für größere Strecken glatte Zahlen in Fuß angestrebt waren: Breite 55 Fuß, Mittelgang 20 Fuß Breite, Seitenschiffe 15 Fuß Breite. Daher ist es wahrscheinlicher, für die Achsweite 11 Fuß anzunehmen, wodurch sich denn an den Kopfenden noch Platz für die Abschlußwände ergibt. Überschlägig folgt:  $36 \times 11 \text{ Fuß} = 396 \text{ Fuß}$ . Für jedes Kopfende blieben dann noch 2 Fuß für die Mauerstärke.

De Waele ist der Sache weitaus gründlicher nachgegangen. Aus der Text-Angabe der Bemessung der Blöcke der Euthynterie ergibt sich für diese eine Länge von 401,5 Fuß. (de Waele S. 112/113 und Abb. 1). Desweiteren begründet de Waele, daß die Quader der Euthynterie auf jeder Seite 0,25 Fuß über das Aufgehende vorstehen, zusammen ist das 0,5 Fuß. Das ergibt für das Aufgehende eine Länge von 401 Fuß. Aus dem griechischen Text ergibt sich ferner, daß die Mauerbreite des Aufgehenden 2,5 Fuß sein soll. Deshalb ist, um die innere Weite zu erhalten, von 401 Fuß noch zweimal 2,5 Fuß abzuziehen, wodurch sich  $401 - 5 = 396 \text{ Fuß}$  ergibt.

Daraus errechnet de Waele

$396 \text{ Fuß} : 36 = 11 \text{ Fuß}$  für die Achsweite. Das begründet weit besser das Ergebnis unserer Überschlagsrechnung.

Folgt man Steinhauer, daß die Achsweite 3,5 m betrage, dann ergibt sich für den Fuß:

$$3500 \text{ mm} : 11 \text{ Fuß} = 318,18 \text{ mm/Fuß},$$

und das liegt weit vom dorisch-phaidonischen Fuß ab, erst recht vom eingangs errechneten Mittelwert. Aus der Überlegung über die Achsweiten ist so zunächst kein eindeutiges Ergebnis zu erlangen, wenn man die 11 Fuß als ungesichert annimmt.

Folgt man dem Gedankengang von de Waele, dann müssen sich die von Steinhauer gemessenen 82,60 m aus 23 Achsabständen (Jochen) und einer Mauerbreite zusammensetzen. Das sind zusammen:

$$23 \times 11 \text{ Fuß} + 2,5 \text{ Fuß} = 255,5 \text{ Fuß}.$$

$$82,60 \text{ m} : 255,5 \text{ Fuß} = 0,3233 \text{ m/Fuß}$$

Das liegt nun ganz nahe an einer wohlbekannten Maßeinheit, dem Fuß der Elle von Salamis (Code A4), der 322,6 mm lang ist. Der Unterschied beträgt 0,21%.

Überprüft man das mit der zu 3,5 m angegebenen Achsweite, dann folgt

$$3500 \text{ mm} : 322,6 \text{ mm/Fuß} = 10,85 \text{ Fuß}$$

oder anders:

$$11 \times 322,6 \text{ mm} = 3549 \text{ mm}.$$

Nun gibt, wie erwähnt, Steinhauer nicht an, wie genau die 3,5 m zu nehmen sind, und bei 82,6 m kommt es ihm auf 10 cm nicht an. So ist ggf. 3549 mm durchaus noch durch 3,5 m abgedeckt. Denn S. 46 schreibt er mit Hinblick auf das metrologische Relief von Salamis: “Dabei ist besonders die Feststellung interessant, daß als Basis aller dargestellten Detailmaße ... der größere Fuß von 32,2 cm zugrundegelegt ist, der dem Fußmaß der Skeuothek entspricht.”

De Waele weist darauf hin (S. 114), daß die Breite der Euthynterie genaugenommen nicht 55 Fuß sondern 55,5 Fuß betragen müsse. Für diese Distanz gibt Steinhauer glatte 18 m an, und man fragt sich wieder, wie genau diese Angabe ist. Jedenfalls errechnet sich daraus:

$$18\,000 \text{ mm} : 55,5 \text{ Fuß} = 324,32 \text{ mm/Fuß}$$

was deutlich unter der Annahme von Steinhauer liegt: Die Abweichung zu 323,3 mm (s. o.) ist 0,308%, zu 322,6 mm 0,52%. In Anbetracht der Unsicherheit der aus der Bauaufnahme herrührenden Daten muß das zunächst als im Bereich der üblichen Baufehler liegend angesehen werden.

Steinhauer gibt als Breite des Mittelganges 6,55 m an, als Breite der Seitengänge 4,90 m. Daraus errechnet sich eine Gesamtbreite von 16,35 m. Dem müssen 20 Fuß für den Mittelgang und je 15 Fuß für die Seitenschiffe entsprechen, also zusammen 50 Fuß.  $16,35 \text{ m} : 50 \text{ Fuß} = 0,327 \text{ m/Fuß}$ . So genau ist nie ein Bau ausgeführt worden! – An der Gesamtbreite von 18 m fehlen dann noch 1,65 m, die auf die beiden Mauerbreiten aufgeteilt werden müssen:  $1,65 : 2 = 0,825 \text{ [m]}$ . Da nach dem griechischen Text (Zeile 21 der Inschrift) die Mauerbreite 2,5 Fuß + 1 δακτυλος sein soll, ergibt die Rechnung  $825 : 41 \times 16 = 321,95 \text{ mm}$ , gerundet 322 mm für die Länge des Fußes.

Zwar paßt das überraschend gut zum Fuß der Elle von Salamis, es ist aber nicht möglich, daß 18 m sowohl den 55,5 Fuß der Euthynterie als auch den 50 Fuß des Aufgehenden entsprechen. Nach der fotografischen Aufnahme hat Steinhauer wahrscheinlich die Euthynterie vermessen; siehe weiter oben.

Weil die 6550 mm für den Mittelgang, die 4900 mm für die Seitenschiffe und die 18 000 mm für die Gesamtbreite jene drei Werte sind, die wirklich auf den postulierten Fuß von ca. 327,5 mm führen, während dieser Wert sonst stark verfehlt wird (siehe weiter oben), drängt sich der Verdacht auf, daß hier geschönt worden ist, indem nur ungefähre Distanzen angegeben sind. Das ging ja auch aus der Untersuchung der Distanz von 82,6 m hervor.

#### RASTERBETRACHTUNGEN

Verführt durch den Umstand, daß sich auf Stylobaten häufiger der Mittelpunkt einer Säule angemerkt findet und daß die Architrave sinnvollerweise von Mittelpunkt zu Mittelpunkt einer Säule reichen, hat sich die Klassische Archäologie samt den sich an ihr orientierenden Wissenschaften daran gewöhnt, mit 'Achsen' zu rechnen und nach ihnen aufzumessen und Gebäude nach ihnen zu betrachten.

Das ist aber völlig unantik gedacht. Eine Durchsicht der 10 Bücher Vitruvs über die Baukunst nach dem Stichwort *axis* ergab, daß in jedem einzelnen Falle eine echte Drehachse gemeint ist. Von Achsen zu sprechen, wenn Säulen in einer Linie aufgereiht sind, läge Vitruv fern. Selbst bei L. Battista Alberti (1404-1472) noch ist, wenn er von Achse spricht, eine echte Drehachse gemeint.

Bereits im Mittleren Reich Ägyptens werden zunehmend Wandzeichnungen und Grundrisse nach einem Raster entworfen, und daran hat sich bis Leonardo da Vinci und Brunelleschi nichts geändert (Ahrens; Rottländer 1994; Huber 1990). Vitruv schreibt ganz eindeutig (III, III, 7):

*'Item ex his partibus sive tetrastyli sive hexastyli sive octastyli una pars sumatur, eaque erit modulus. Cuius moduli unius erit crassitudinis columnarum.'* Wenn in Vitruv I, II, 4: *'Et primum in aedibus sacris aut e columnarum crassitudinis aut triglypho aut etiam embatere...'* gesagt ist und wenn in IV, III, 4: *'Supra epistylum conlocandi sunt triglyphi ... lati in fronte unius moduli'*

dann heißt das nicht, daß die Bemessung wahlweise nach Säulendicke, Triglyphe oder Embater erfolgen könne, sondern daß die beiden Bauglieder gleich, nämlich ein Embater bemessen sind, denn IV, III, 3 steht:

*'Ex his pars una erit modulus, qui graece ἐμβατηρ dicitur'*. Mit anderen Worten: durch *aut* ist eine Gleichordnung der Dinge vorgenommen, kein ausschließendes Entweder/oder.

So wird in III, III von Vitruv immer wieder gesagt, daß die untere Säulendicke ein *modulus* oder eine

*pars* sei: in III, III, 10 gleich zweimal, und der letzte Satz lautet:

*'Ita habebitur pro rate parte intercolumniorum ratio'*.

Bei dieser Bemessung nach Säulendurchmessern sind die Säulen an den Flanken der Tempel nicht ausgenommen (was ja auch den Befunden entspricht). Sie werden in III, III, 9 behandelt.

Offensichtlich gliedert Vitruv den Entwurf eines Tempels nach einem System von unteren Säulendurchmessern und Intercolumnien, wobei diese durch jene ausdrückbar sind, oder mit anderen Worten: der Säulendurchmesser ist *modulus* oder Embater. Vitruv schreibt ausdrücklich, daß mit dem *modulus* die Gliederung und Berechnung des *gesamten* Bauwerks durchgeführt wird (IV, III, 3).

Da in der Ebene in zwei aufeinander senkrechten Richtungen mit derselben Einheit aufgegliedert wird, d.h. die Säulen eben an den Flanken denselben unteren Durchmesser wie an der Front haben, ist damit nicht mehr oder weniger als ein Raster vorgegeben. In dieses Raster werden die Konstruktionselemente des Bauwerks eingefügt.

Schreibt denn Vitruv nichts über dieses Raster? Zunächst muß man sagen, daß er es eindeutig genug beschrieben hat. Dann muß man feststellen, daß das Raster eine selbstverständliche handwerkliche Voraussetzung für jeden Architekten nicht nur der damaligen Zeit war, weswegen sich eine explizite Behandlung dieses Themas erübrigt. Aber das Raster wird einmal erwähnt: in III, I, 1 taucht das hapax legomenon *commodulatio* auf, das nichts anderes als Rasterung bedeutet (Rottländer 1994).

Die Rasterung ist kein starres Schema sondern Hilfsmittel der Gliederung und der Zeichnung. Wenn sich also aus der Gliederung durch die Rastereinheit (RE; dieser Abkürzung möchte ich den Vorzug geben, weil die Begriffe *modulus* und *embater* inzwischen in der klassischen Archäologie und darüber hinaus völlig verwässert sind und oft dann angewendet werden, wenn der Autor sich in der Metrologie verheddert hat) Strecken ergeben, die sich nicht glatt in Fuß (oder gegebenenfalls *digiti*) ausdrücken lassen, dann hat der antike Architekt zum nächstgelegenen glatten Fußmaß (oder *digitus*) gerundet, denn das Raster ist Entwurfshilfe, während am Bau selbst mit Elle, Fuß oder *digitus* gearbeitet wird.

Nach diesen Vorbemerkungen zur Bedeutung des Rasters für den Entwurf antiker Bauten soll nun untersucht werden, was der Text der Bauinschrift des Schiffsarsenals zum Raster resp. zur Rastereinheit (RE) hergibt. In der Tat findet sich im griechischen Text in Zeile 41 die Angabe: 'Die Stärke der Säulen unten soll 2 3/4 Fuß betragen.'



Folgt man Vitruv, dann sollten sich zumindest die Hauptdimensionen in einer Einheit von 2,75 Fuß ausdrücken lassen. Die Länge des Arsenal's soll 4 Plethren oder 400 Fuß betragen. Daher:

$$400 [\text{Fuß}] : 2,75 [\text{Fuß}] = 145,45 [\text{RE}]$$

Das ist kein glattes Maß. De Waele hat herausgearbeitet (S. 112), daß es an sich 401,5 Fuß sein müßten, wenn man von der Länge der Blöcke ausgeht. Daher:

$$401,5 [\text{Fuß}] : 2,75 [\text{Fuß}] = 146 [\text{RE}]$$

Das geht nun glatt auf. Die Abweichung von 1,5 Fuß auf 400 Fuß ist 0,375%. Verschiedentlich habe ich auseinandergelegt, daß die antiken Längenmaße nur auf ca. 0,2% genau festliegen und daß an gut ausgeführten antiken Bauwerken der Ausführungsfehler bei 0,4% liegt. Genau zwischen diesen Werten liegen nun die 0,375%, die der entwerfende Architekt offensichtlich in Kauf nimmt. Er bewegt sich damit an der Grenze des in der Antike üblicherweise Machbaren. Von daher ist seine Angabe '4 Plethren' sinnvoll und ausreichend. (Eine Angabe, die um 3 Fuß fehlergeht, d.h. um 0,75%, ist dagegen nicht mehr tragbar).

Die Breite der Skeuothek wird im griechischen Text mit 55 Fuß angegeben. Daher:

$$55 [\text{Fuß}] : 2,75 [\text{Fuß}] = 20 [\text{RE}]$$

Entgegen Steinhauer wurde von de Waele und mir der Abstand der Säulennachsen mit 11 Fuß ermittelt. Daher:

$$11 [\text{Fuß}] : 2,75 [\text{Fuß}] = 4 [\text{RE}]$$

De Waele gibt für die lichte innere Weite 396 Fuß an. Daher:

$$396 [\text{Fuß}] : 2,75 [\text{Fuß}] = 144 [\text{RE}]$$

Dadurch ergibt sich als Abstand von der Außenkante der Euthynterie bis zur Innenkante der Wand:

$$146 \text{ RE} - 144 \text{ RE} = 2 \text{ RE, d.h. für jedes Kopfende 1 RE.}$$

Das Mittelschiff soll nach Inschrift 20 Fuß breit werden. Daher:

$$20 [\text{Fuß}] : 2,75 [\text{Fuß}] = 7,27 [\text{RE}]$$

Im Detail findet sich hier erstmals eine kleine Abweichung. Aber der antike Architekt hat offensichtlich anders gerechnet:  $7,25 \times 2,75 = 19,94 [\text{Fuß}]$ , und das hat er auf 20 Fuß gerundet. Sein Fehler beträgt 0,06 Fuß oder rund 2 cm resp. 0,3%. In einer Zeichnung etwa im Maßstab 1:80 entspricht das 0,25 mm und ist daher nicht mehr relevant. Die Seitenschiffe sollen 15 Fuß Breite haben. Daher:

$$15 [\text{Fuß}] : 2,75 [\text{Fuß}] = 5,45 [\text{RE}]$$

Wieder gibt es eine kleine Abweichung. Offensichtlich rechnete der antike Architekt folgendermaßen:  $5,5 \times 2,75 = 15,125 [\text{Fuß}]$ , gerundet 15 Fuß. Und wenn er bei den Seitenschiffen etwas zu viel hatte, so wurde damit das Manko des Mittelschiffs etwas überkompensiert.

Addiert man die Breiten von den Seitenschiffen und dem Mittelschiff, so erhält man 50 Fuß. In Raster-einheiten ausgedrückt folgt:  $50 [\text{Fuß}] : 2,75 [\text{Fuß}] = 18,181 [\text{RE}]$ , gerundet  $18 \frac{1}{8} \text{ RE}$ .  $18,125 \times 2,75 = 49,84 [\text{Fuß}]$ , und damit 5,2 cm oder 0,32% unter 50 Fuß.

In Zeile 24 des griechischen Textes steht, daß die vier Türöffnungen 9 Fuß weit sein sollen. Daraus folgt:  $9 [\text{Fuß}] : 2,75 [\text{Fuß}] = 3,27 [\text{RE}]$

Andererseits gilt  $3,25 \times 2,75 = 8,94 [\text{Fuß}]$ , d.h. es fehlen 0,44%.

Es läßt sich also festhalten, daß die Hauptdimensionen der Skeuothek nach einem Quadratraster entworfen sind.

In einem Punkt aber muß mehr ins Detail gegangen werden: Es geht um den Abstand der Säulennachsen, der nicht in das Bild von einer Rasterung paßt. Wie Abb. 1 zu entnehmen ist, ist dann, wenn der Architrav oder der Achsabstand 11 Fuß oder 4 RE lang ist, das Intercolumnium 3 RE lang, sodaß mit dem unteren Säulendurchmesser wieder 4 RE zusammenkommen. Wenn auch zahlenmäßig sich nichts ändert, wenn man nicht mehr den Achsabstand ins Auge faßt, sondern nach Rastereinheiten rechnet, so steht doch hier ein anderes Konzept dahinter, eben das der Rasterung, und welche Auswirkung das hat, wird sogleich gezeigt.

Weil ich bei meinen Messungen und Untersuchungen an antiken Bauten, auch in Ägypten, gefunden habe, daß beispielsweise Säulendurchmesser + Intercolumnium oder Plinthe + Plinthenzwischenraum oder Konsole + Konsolenzwischenraum am Bau im Maß durchweg genauer eingehalten sind, d.h. der Rasterung besser entsprechen, als dies die einzelnen Konstituenten tun, möchte ich diese zu einer 'Gruppe' zusammenfassen (Rottländer, 1996). Eine solche Gruppe erscheint beispielsweise auch, wenn Vitruv IV, III, 3 sagt, beim Viersäuler solle die Front in 27, beim Sechssäuler in 42 Teile geteilt werden. Der Unterschied von 15 moduli muß je einer 'Gruppe' rechts und links, die aus Intercolumnium und Säule besteht, zugerechnet werden, d.h. die Gruppe ist mit  $7 \frac{1}{2}$  moduli anzusetzen.

Bei der Skeuothek ist jedenfalls die Gruppe 4 RE lang, wovon 3 RE auf das Intercolumnium gehen. Bei 35 Säulen mit 34 Intercolumnien gibt es 34 Gruppen à 4 RE plus 1 Säule à 1 RE, also

$$136 + 1 = 137 \text{ RE.}$$

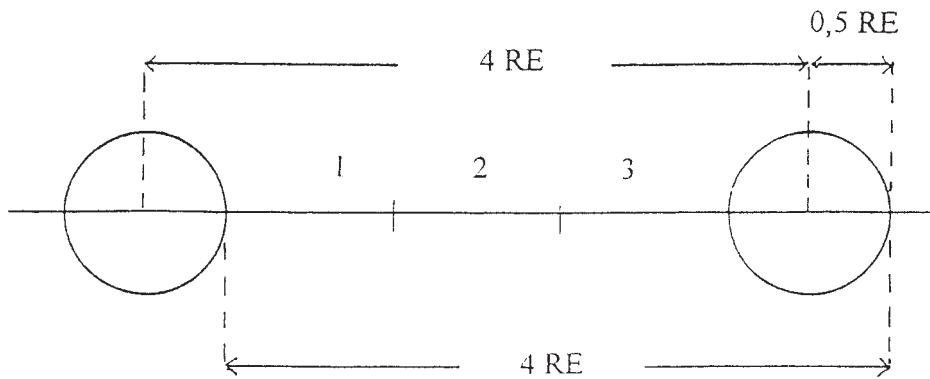


Abb. 1

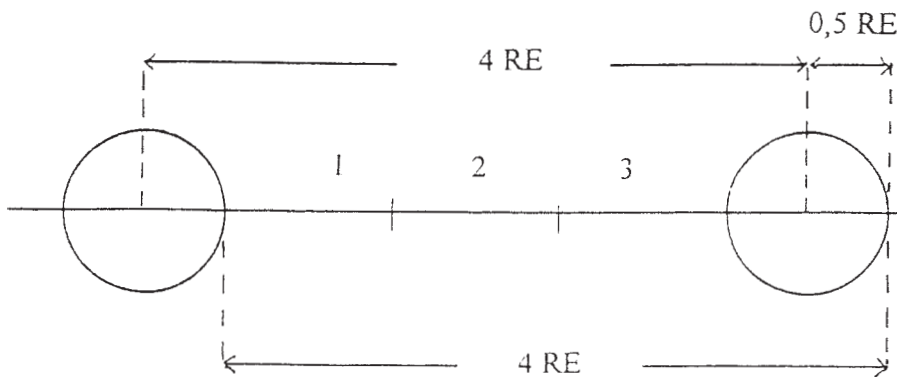


Abb. 2

Nach den bisherigen Überlegungen muß an den Enden der Säulenreihen noch einmal ein Raum so groß wie ein Intercolumnium sein, also je 3 RE. Zusammen ist das

$$137 + 3 + 3 = 143 \text{ RE.}$$

In der Höhe der Euthynterie ergeben sich, wie schon erwähnt, von Außenkante des Baus zur Außenkante

146 RE. Es war auch schon gesagt, daß zur Innenkante der Mauer hin 1 RE abgezogen werden muß, die sich aus Rücksprung zum Aufgehenden und der Mauerbreite zusammensetzt, weswegen 144 RE übrigbleiben. Weil  $144 - 143 = 1 \text{ RE}$  ist, tut sich hier eine Differenz von 1 RE auf. Das hat de Waele übersehen, weil er mit Achsweiten rechnet, wie das auch Steinhauer tut.

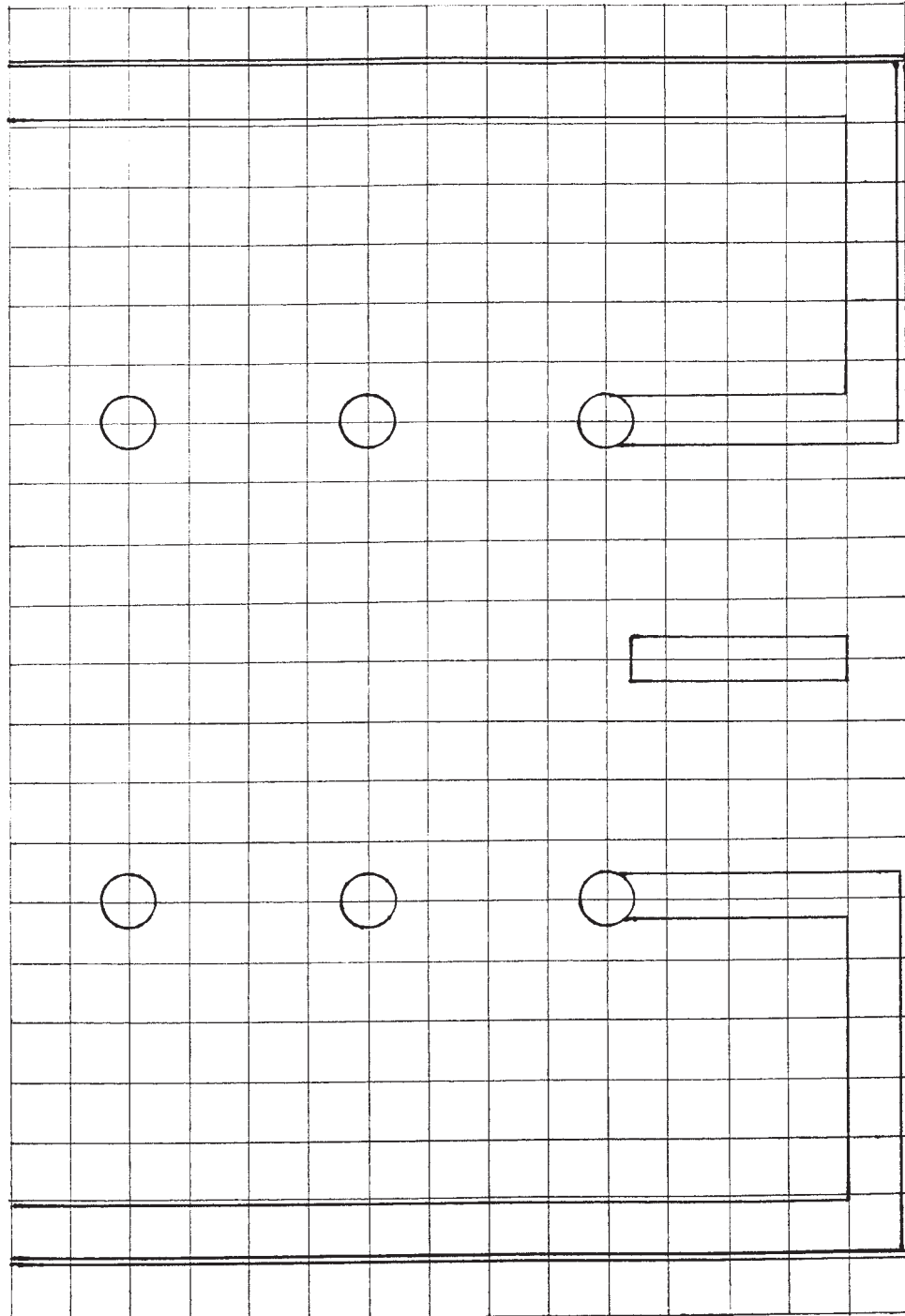


Abb. 3. So könnte der Planentwurf des Architekten für ein Kopfende der Skeuothek ausgesehen haben. Die Länge der Einheit des dargestellten Rasternetzes beträgt 11,06 mm. Das ist eine halbe Unze (= 1/24) des Gudea-Fußes (Code D2), der selbst 265,4 mm lang ist. Folglich ist seine Unze als 1/12 dann 22,12 mm lang. – Durch Multiplikation der Länge der halben Unze mit 80, also  $11,06 \text{ mm} \times 80 = 884,8$ , wird nahezu die Länge der Rastereinheit im Gelände erreicht, die 2,75 (= unterer Säulendurchmesser) mal Fuß der Salamiselle (à 322,6 mm; Code A4) = 887,1 mm ist. Die Vergrößerung 80 : 1 wird je Rastereinheit um nur 2,35 mm verpaßt, was 0,26% entspricht. – Dadurch, daß der Architekt den Abstand der letzten Säule zur Wandinnenkante mit 3,5 RE statt der sonst zwischen den Säulen eingehaltenen 3 RE machte, liegen die Mittelpunkte der Säulen auf Kreuzungspunkten des Rasternetzes. Im Original dürfte der Plan etwa 22,4 cm mal 162 cm groß gewesen sein, was dem Format antiker Papyrusrollen sehr entgegenkommt.



Um dieses 'fehlende' Stück von insgesamt 1 RE ist also der Abstand der jeweils äußeren Säulen zur Wand hin größer, d.h. es ist nicht 3 RE sondern 3,5 RE lang. Nun gilt:

$$3,5 \text{ RE} \times 2,75 \text{ Fuß} = 9,625 \text{ Fuß.}$$

Im griechischen Text (Zeile 25) ist von einem nach innen führenden Mauerstück die Rede. Bei de Waele wird es übergangen. Es ist 2 Fuß breit und 10 Fuß lang und teilt die Mitte der Stirnseiten zu zwei Durchgängen, wahrscheinlich, um das Format der Türen in einer praktikablen Größe zu halten. Ob seine Stirnkante mit der Mauerflucht abschließt oder ob es um Mauerbreite zurückgesetzt ist, läßt sich dem griechischen Text nicht entnehmen.

Der Text sagt aber (Zeile 26), daß rechts und links Mauern nach innen einspringen sollen, bis sie die erste Säule erreichen. Da, wie oben berechnet, die einspringende Mauer mit 9,625 Fuß nur *an* die Säule heranreicht, ohne sie einzubinden, sind ca. 10 Fuß nötig, um die Säule einzubinden. Dieser Wert steht in Analogie zu dem gerade oben genannten Mauerstück von 10 Fuß Länge.

Obwohl Steinhauer das Nordende der Skeuothek ergraben hat (seine Abb. 36 und 37), fanden sich offensichtlich keine Spuren des Aufgehenden mehr, die eindeutig belegt hätten, wie lang 10 Fuß sind. Nachdem durch die Rasterbetrachtung die Konstruktionsverhältnisse der Bauinschrift entsprechend wohl jenseits vernünftiger Zweifel geklärt sind, bleibt übrig, noch einmal auf die verwendete Fußlänge zurückzukommen. Daß der Ansatz von Steinhauer mit 327,5 mm/Fuß fehlerhaft, war oben vorgerechnet worden.

Welche Fußlänge kann nun aus den Daten von Steinhauer abgeleitet werden? Da ist einmal die Messung des Abstandes der beiden Säulenpaare mit 3,5 m. Da jetzt feststeht, daß dies 11 Fuß entspricht, folgt:

$$3500 \text{ mm} : 11 \text{ Fuß} = 318,18 \text{ mm/Fuß}$$

Dann gibt es die ergrabene Strecke von 82,60 m Länge. Sie ist aus

$$22 \times 4 \text{ RE} \rightarrow 2,75 \text{ Fuß} + 1 \text{ RE} + 3,5 \text{ RE}$$

zusammengesetzt, also = 92,5 RE.

$$92,5 \text{ RE} \times 2,75 \text{ Fuß/RE} = 254,375 \text{ Fuß}$$

$$82\,600 : 254,375 = 324,7 \text{ [mm/Fuß]}$$

Die beiden Angaben 318,18 mm/Fuß und 324,7 mm/Fuß müssen der Häufigkeit ihres Vorkommens nach gewichtet werden, weswegen von 34 mal 318,18 mm/Fuß und 23 mal 324,7 mm/Fuß auszugehen ist. Das sind 57 Werte. Daraus ergibt sich:

$$320,81 \pm 3,198 \text{ mm/Fuß} \quad \text{VK} = 0,99\%$$

Dazu können noch die folgenden Werte hinzugenommen werden:

$$\begin{array}{ll} \text{Mittelschiff} & 6550 : 20 = 327,5 \text{ [mm]} \\ \text{Seitenschiffe} & 4900 : 15 = 326,7 \text{ [mm]} \quad (\text{zweimal}) \\ \text{Breite} & 18\,000 : 55,5 = 324,3 \text{ [mm]} \end{array}$$

Aus diesen 61 Daten ergibt sich:

$$321,17 \pm 3,39 \text{ mm/Fuß} \quad \text{VK} = 1,06\%.$$

Obwohl der Variationskoeffizient VK wegen der stark gerundeten Werte der Aufmessung unbefriedigend hoch ist, liegt die ermittelte Fußlänge nicht weit von dem Fuß der Elle von Salamis (Code A4) mit seinen 322,6 mm entfernt. Die Abweichung beträgt 1,4 mm oder 0,44%. Eine Abweichung in dieser Größenordnung ist bei gut ausgeführten Bauwerken der Antike üblich.

Wie oben schon gesagt, sind die Werte für Mittelschiff und Seitenschiffe offensichtlich geschönt, doch macht das deshalb für die vorliegende Berechnung nicht viel aus, weil das, was der einen Strecke genommen wird, zwangsläufig der anderen zugeschlagen werden muß, weil sie auf einer Geraden liegen. So ergab sich die extrem gute Passung für die Mauerbreite.

Da, wo Steinhauer die Konstruktion zu verstehen glaubte, passen seine Daten zum vermeintlichen dorisch-pheidonischen Fuß, da, wo er die Konstruktion nicht durchschaute, liefert er das gefundene Aufmaß und damit den Anhalt für die richtige Berechnung.

Vom dorisch-pheidonischen Fuß zwischen zumindest 326 bis 328 mm, der 'am besten gesicherten antiken Maßeinheit', ist indes nichts übriggeblieben.

#### ZUR ENTWURFSZEICHNUNG

Die einschlägige Literatur schweigt sich darüber aus, wie die Entwurfszeichnung in das Gelände übertragen wird. Auch die von Haselberger insbesondere am Didymeion aufgefundenen Ritzzeichnungen, so aufhellend sie auch sind, stellen ja bereits den zweiten Schritt dar. Denn daß es Zeichnungen gegeben haben muß, die nach Lage der Dinge entweder auf Pergament oder Papyrus ausgeführt waren, ergibt sich zweifelsfrei aus Vitruv I, II, 2, aber nicht nur von dort. So muß es auch für die Skeuothek eine solche Zeichnung gegeben haben, anhand derer sich der Architekt den Entwurf überlegt hat, und die Grundlage für die Inschrift gewesen ist.

An anderer Stelle (Rottländer, 1996) habe ich näheres darüber ausgeführt, wie sich insbesondere aus der 'krummen' Zahl 13 für die Rastereinheit ein Weg finden läßt, der wenigstens theoretisch gangbar erscheint. Für die Rastereinheit der Skeuothek waren 2,75 Fuß herausgestellt worden, eine nicht 'gerade' Zahl. Das bessert sich keineswegs dadurch, daß die Gruppe à

vier Rastereinheiten wenigstens glatte 11 Fuß hat. Die Zahl 13 hatte auf ein Vergrößerungsverhältnis von der Zeichnung auf die Realität von rund 1:80 geführt. Wenn man jetzt umgekehrt versuchsweise die 2,75 Fuß durch 80 teilt, um zu erfahren, wie groß etwa die Rastereinheit auf dem Zeichengrund ausgesehen hat, dann folgt:  $2,75 \times 322,6 \text{ mm} = 887,15 \text{ mm}$ ;  $887,15 \text{ mm} : 80 = 11,089 \text{ mm}$ .

Die Unze des Gudea-Fußes D2 beträgt 22,12 mm, ihre Hälfte somit 11,06 mm. Wenn der Architekt also in ein Gitternetz mit der Rastereinheit von einer halben Unze das je halbe Unze einträgt, was einer Rastereinheit am Bau entsprechen soll, und wenn er dann Anweisung gibt, das habe am Bau eben mit einer Länge von 2,75 Fuß ausgeführt zu werden, dann hat er eine Vergrößerung von 80:1 erreicht. Der Vergrößerungsfehler (nicht der Meßfehler!!!) beträgt 0,27%. Eine Gruppe wird dann in der Zeichnung 2 Unzen lang, und es ist nicht schwierig, in der Zeichnung eine halbe Rastereinheit darzustellen, weil das noch rund 5,5 mm sind. Das Viertel der Rastereinheit ist mit Augenmaß noch leicht dazwischen zu setzen, und feiner als in die Viertel der Rastereinheit wurde recht selten unterteilt – von ornamentalen Details natürlich abgesehen.

Beim St. Galler Klosterplan ist das als ein digitus ausgeführt, was im Bau hinterher 10 Fuß lang sein soll (Huber 1993). Es wird so eine Vergrößerung von 160 : 1 erreicht. Nun könnte man ja der Ansicht sein, um eine Vergrößerung von 80:1 zu erreichen, sei es einfacher, dasjenige als 2 digiti lang zu zeichnen, was bei der Ausführung dann 10 Fuß lang sein soll. Das erkennt jedoch die Möglichkeiten, die die antike Mathematik in der Bruchrechnung hatte. Wenn man nämlich die 2,75 Fuß, die nun mal eine Säule der Skeuothek als unteren Durchmesser haben sollte, durch 80 teilt, dann errechnet sich folgendes:

$$2,75 \text{ Fuß sind } 2,75 \times 16 \text{ digiti} = 44 \text{ digiti.} \\ 44 : 80 = 0,55 \text{ digiti.}$$

Wir können durch einen Dezimalbruch diesen Wert ganz leicht ausdrücken, aber die antike Bruchrechnung hatte diese Möglichkeit nicht. Wenn statt dessen mit 0,5 digiti resp. 1/2 digiti gearbeitet worden wäre, wäre der Vergrößerungsfaktor um rund 10% verpaßt worden! Noch schwieriger hätte es bei der Umsetzung von 1/4 RE ausgesehen. Durch das Ausweichen auf eine andere Maßeinheit ließ sich aber diese Schwierigkeit umgehen, und diese Technik findet sich schon im Neuen Reich in Ägypten.

Vielleicht mag eingewendet werden, der Gudea-Fuß sei – obwohl Eratosthenes ihn bei seiner Rechnung benutzte – ein exotisches Maß und habe im römischen Kontext nichts zu suchen. Das ist aber nicht so. Für den Pronaos des Pantheon ließ sich dieser Fuß als für die Gestaltung des Rasters wichtig nachweisen

(Rottländer, 1996), und jüngste Messungen haben ergeben, daß ein eingeritztes rechtwinkliges Dreieck auf der Plattenlage vor dem Augustusmausoleum in Rom Katheten mit 2 und 4 Gudea-Fuß hat und daß die Blocklagen des Doms zu Orvieto, um 1300 AD, genau eine Einheit dieses Fußes hoch sind, der Gebrauch sich also weiter tradiert hat.

Auch diese Überlegungen stützen die Auffassung, daß die Skeuothek nach dem Fuß der Salamis-Elle bemessen ist und der dorisch-pheidonische Fuß nicht existiert.

#### LITERATUR

- Ahrens, D., 1968, Metrologische Betrachtungen am Apoll von Tenea. *Jahreshefte des Österreichischen Archäologischen Instituts*, Beiblatt 49 (1968-1971) 115-132
- de Waele J.A.K.E., 1993, Das Schiffsarsenal des Philon im Piraeus (I G II<sup>2</sup> 1668) *Babesch* 68 (1993) 107-120
- Dörpfeld, W., 1882, Beiträge zur antiken Metrologie. *Mitteilungen des Deutschen Archäologischen Instituts Athen* 7 (1882) 277-312
- Dörpfeld, W., 1890, Metrologische Beiträge V. *AM* 15 (1890) 167-187
- Haselberger, L., 1980, Werkzeichnungen am jüngeren Didymaion. *Istambuler Mitteilungen* 30 (1980) 191 ff.
- Herodot<sup>1</sup>, Buch 2, §124 Ende
- Herodot<sup>2</sup>, Buch 2, §149
- Hoepfner, W. & Schwandner, E.-L., 1994, *Haus und Stadt im klassischen Griechenland*, 2. Auflage
- Huber, F., 1990, *Das Trinitätsfresko von Masaccio und Filippo Brunelleschi in Santa Maria Novella zu Florenz*. München
- Huber, F., 1993, Der karolingische Klosterplan von St. Gallen. in: *Ordo et mensura* II, D. Ahrens & R. Rottländer Hrsg., St. Katharinen 1993, S. 201 und Abb. 5 + 6
- Hygin, De conditione agrorum (ed. C. Thulin p. 86) 10 – “item dicitur in Germania in Tungris pes Drusianus qui habet monetalem pedem et sesunciam.”
- Plinius Sec. d. Ä., Buch 36, §80
- Rottländer, R., 1991<sup>1</sup>, Zur Entwurfskonstruktion des Ersten Bauabschnitts des Theaters in Epidauros. Darin Exkurs I: Gibt es den dorisch-pheidonischen Fuß? *Ordo et mensura* I, D. Ahrens & R. Rottländer Hrsg., St. Katharinen, S. 145-152
- Rottländer, R., 1991<sup>2</sup>, Die Projektgruppe MMM: Maße - Musik - Mathematik. *Ordo et mensura* I, D. Ahrens & R. Rottländer Hrsg., St. Katharinen S. 22-25
- Rottländer, R., 1993, Fortschritte bei der Materialsammlung vormetrischer Längenmaße und deren Buchstabencode. *Ordo et mensura* II, D. Ahrens & R. Rottländer Hrsg. St. Katharinen 1993, S. 90
- Rottländer, R., 1994, Studien zur Verwendung des Rasters in der Antike I. *Österreichische Jahreshefte* 63 Hauptblatt (1994) S. 1-47
- Rottländer, R., 1996 (?) Studien zur Verwendung des Rasters in der Antike II, *Österreichische Jahreshefte*, 65 (1996) 1-86
- Steinhauer, G., 1994, vide Hoepfner & Schwandner, S. 44 ff.

# Provenance and Ways of Distribution of Facial Moulds Used on Votive Heads from Tessennano

## A preliminary report

Martin Söderlind

### INTRODUCTION

The frequent recurrence of long series of votive terracottas cast in worn moulds, without retouchings or any other kind of manual improvements of the blurred casts, no doubt suggests that the organisation of the ancient terracotta industry was often divided between the artistic production of the archetypes and the regular, purely mechanical serial production. Itinerant craftsmen and mould circulation are frequently referred to as plausible ways of distribution when casts from identical or derivable moulds are found at different locations, be they architectural or votive terracottas<sup>1</sup>. The fact that both phenomena are modern deductions, without any foundation in the ancient, textual sources, would call for a general evaluation of the evidence put forward so far. Such a survey is, unfortunately, too large to be included in the present article. Instead, a way of testing a special kind of votive heads from Southern Etruria for relevant evidence will be proposed. These votive heads, found *en masse* all over Central Italy, are each cast from a single, frontal mould covering the facial features and the hair, while the more or less untreated back is handmade, thus offering a possibility to identify workshops and possibly even specific craftsmen. (Fig. 1a)<sup>2</sup>. Before the presentation of a few preliminary results of a larger ongoing research project, it seems, however, appropriate to begin with a short discussion regarding problems of definition and the possible ways by which mechanically derivable terracottas, found at different sites, could have been spread, from the location of the artistic production of the archetypes to the location of the serial production.

By *itinerant craftsmen* is sometimes meant the terracotta sculptors, travelling around, carrying the moulds taken from the archetypes, supposedly made by themselves. This meaning is perhaps clearer if we use the Italian *coroplasto vagante* which, contrary to the English *craftsman*, seems to imply a sculptor-artist rather than a craftsman-artisan. According to such a definition, such men are equivalent to a mobile elite, responsible for the artistic part in the production, yet dependent for the serial production

on local workshops lacking in, or short of such artistic capacity<sup>3</sup>. Sometimes, on the other hand, the term *itinerant craftsmen*, could also refer to entire staffs. These are assumed to have carried all the necessary equipment while traveling and even to have constructed their own, provisional furnaces at the temporary locations of production<sup>4</sup>. Whether the casts were made by a single sculptor or a whole workshop, it seems, in most cases, nevertheless reasonable to assume that local clays were used instead of clay being transported, at least in the areas where clays are abundant, such as in Southern Etruria, which is the region under discussion presently<sup>5</sup>. Men working in stationary workshops, temporarily employed on assignments at other locations, such as that of Vulca from Veii on the Capitolium in Rome, do not qualify as itinerant craftsmen. As already stressed by Bonghi Jovino, much evidence that has been used in support for the existence of itinerant craftsmen may, in fact, derive from stationary work-

<sup>1</sup> E.g. E.D. van Buren, *Figurative Terracotta Revetments in Etruria and Latium*, London 1921, 3. A. Andrén, *Architectural Terracottas from Etrusco-Italic Temples*, Lund 1940, CXIX. L. Vagnetti, *Il deposito votivo di Campetti a Veio*, Firenze 1971, 163-165. M.R. Hoffer, *Untersuchungen zu Stil und Chronologie der Mittelitalischen Terrakotta-Votivköpfe*, Bonn 1985, 115f.

<sup>2</sup> The basic idea of the comparisons between single moulded votive heads has been presented in M. Söderlind, "A Central Italic terracotta votive head in the Museum of Antiquities in Lund, *OpRom* XX, in press., and *idem*, "Forms, Fabrics and Manual parts of the Middle and Late Republican Votive, Funerary and Architectural Terracotta production in Central Etruria", *Fourth Euro-Ceramics, The Cultural Ceramic Heritage* vol. 14 (3rd European Meeting on Ancient Ceramics. Archaeometrical and Archaeological Studies), 249-256. In the present article, some further considerations will be added to the problem as well as the latest, preliminary results.

<sup>3</sup> The existence of local workshops, coexisting with itinerant craftsmen have been suggested by Vagnetti, *supra* n. 1, 164-165, and M.R. Hoffer, *supra* n. 1, 115-116 and S. Katzaras, "Technical analysis", in H. Nagy, *Votive Terracottas from the "Vignaccia", Cerveteri in the Lowie Museum of Anthropology*, Roma 1988, 9, n. 12.

<sup>4</sup> S. Katzaras, *supra* n. 3.

<sup>5</sup> However, it should be mentioned that evidence for the transportation of temper has been found in fabrics of the antefixes from Satricum, R.R. Knoop, *Antefixa Satricana. Terracottas from the Sanctuary of Mater Matuta at Satricum (Le Ferriere)*, Assen, Maastricht & Wolfenboro 1987, 231.



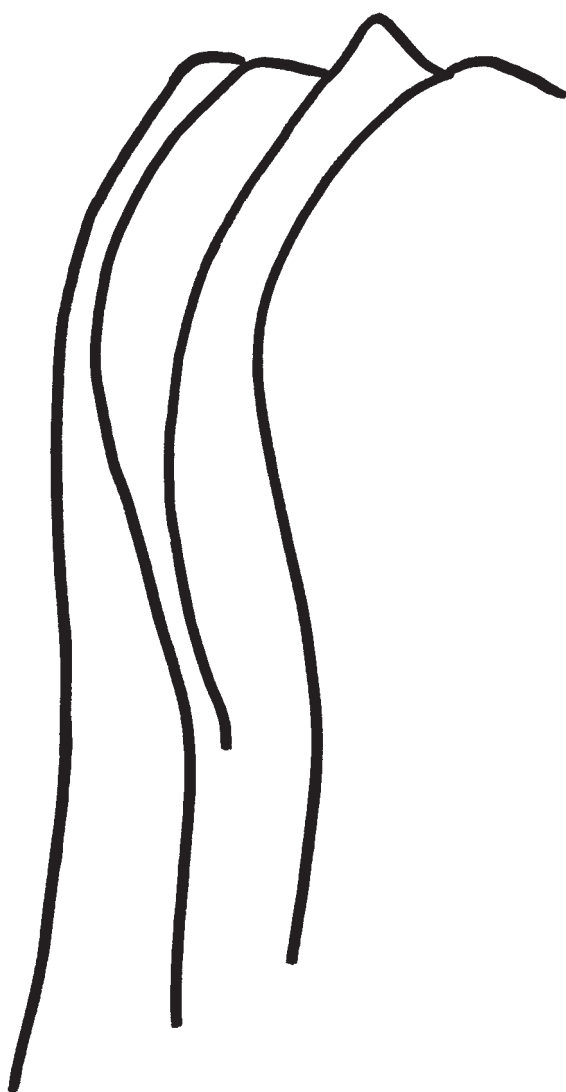


Fig. 1 a. Profile drawing of the backs of heads TE1-2 and TA1-2

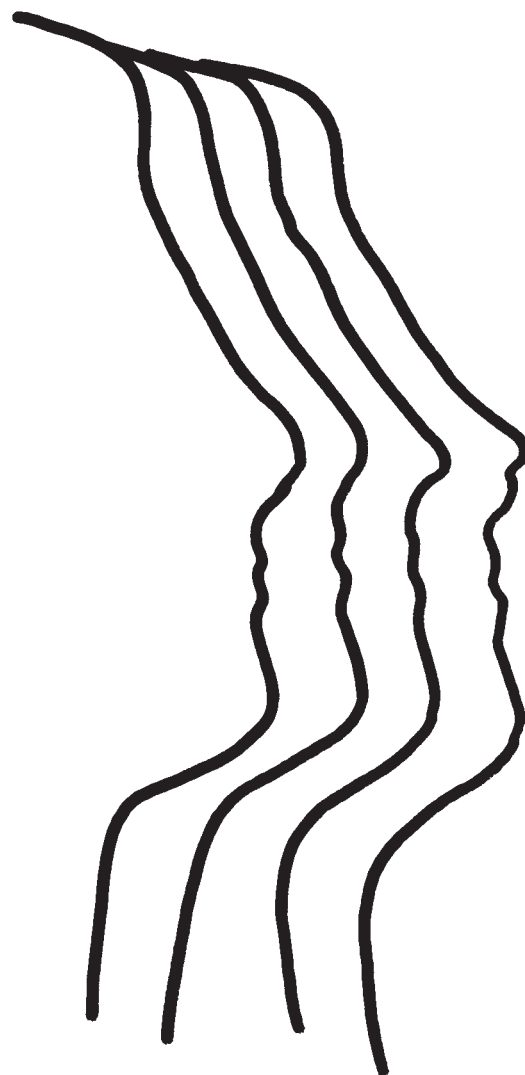


Fig. 1b. Profile drawings of the fronts of heads TE1-2 and TA1-2

shops, like that of Vulca, temporarily engaged in productions at other sites than their permanent location<sup>6</sup>. Mould circulation would refer to any other way by which moulds were spread from one location to another, besides by itinerant craftsmen. They could, for instance, have been traded. However, a type could also have been spread through the casts, which could be used locally for remoulding. Even though a votive head, once having been donated to a sanctuary, should have been considered the property of the divinity, and thus not available for any further productional use<sup>7</sup>, there is always the possibility that a head was bought specifically for the

purpose of remoulding. However, local remoulding can only be considered when replicas of different derivations are compared.

A fourth possible explanation for the spread of mechanically derivable terracottas to different locations is a

<sup>6</sup> M. Bonghi Jovino, *Artigiani e botteghe nell'Italia preromana: Studi sulla coroplastica di area etrusco-laziale-campana*. (Studia archaeologica 56) Roma, 1990, 42.

<sup>7</sup> Nevertheless, a terracotta votive head from the sanctuary at Ponte di Nona seems to have been used for that purpose, T.W. Potter, *Una stipe votiva da Ponte di Nona* (Lavori e studi di archeologia pubblicati dalla soprintendenza archologica di Roma), Roma 1989, 49.

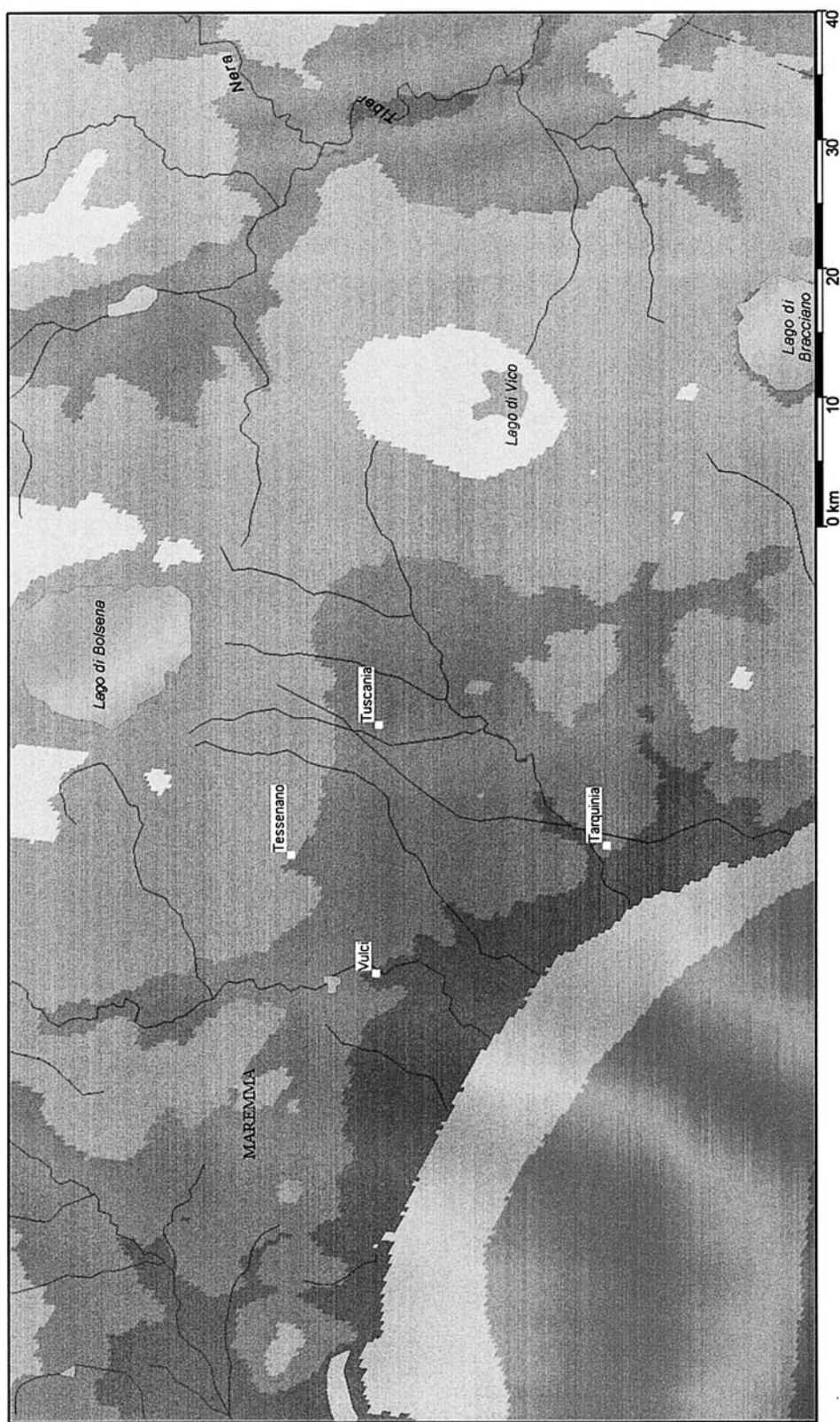


Fig. 2. Map of locations of heads deriving from related moulds



Fig. 3-4. Heads, photographs TA 1 and TA 2

central workshop, trading ready-made terracottas to other locations.

Thus, four different possible ways of spreading derivable, moulded terracottas should be considered: (1.) itinerant craftsmen; (2.) mould circulation (3.) local remoulding and (4.) a central production. Possibly, all four ways may have prevailed in different times and regions or they could, of course, also have coexisted and complemented each other in spreading identical types at various distances from each other.

#### THE ARCHAEOLOGICAL MATERIAL

Single moulded votive heads from a deposit at Tessennano<sup>8</sup> and heads made of identical or related moulds from other locations (Tarquinia, Vulci, Saturnia, Pitigliano and heads of sarcophagi from Tuscania) are presently being studied in order to

discern the organization of production and ways of distribution (Fig. 2)<sup>9</sup>. The types date from the third to the early first centuries B.C., while the five heads that will be discussed here all belong to the second century B.C. (Figs. 3-7). The area of diffusion of the casts is confined to the territories of the cities of Southern Etruria just mentioned, which means that it is rather small, especially when compared, for example, with some widely diffused types of archaic

<sup>8</sup> One part of the deposit find from Tessennano is housed in the National Museum at Tuscania, recently published by S. Costantini, *Il deposito votivo del santuario campreste di Tessennano* (Corpus delle stipe votive in Italia VIII, *Archeologica* 112), Roma 1995. Another part is housed in Medelhavsmuseet in Stockholm. For a recent description of this part of material, S. Unge-Sörling, *A collection of terracotta votives from Tessennano, Vulci*, MedMusB 29, Stockholm, 1994, 44-66.

<sup>9</sup> The samples presented in this article is only a small number of a larger ongoing research which will be presented in a doctoral dissertation to be published in the *Acta Instituti Romani Regni Sueciae*.





Fig. 5-6. Heads, photographs TE 1 and TE 2

architectural terracotta moulds. This limited geographical representation corresponds very well to the observations already made by Comella regarding the most frequently diffused Central Italic types of votive heads. According to her study, the types from Late Hellenistic times are, in general, spread over much smaller areas than those from earlier periods<sup>10</sup>. Nevertheless, it has been suggested that itinerant craftsmen have operated in distributing also these less widely diffused types.

Apart from the moulded faces, the handmade backs and the physical properties of the raw material, i.e. the clay and the inclusions, have also been studied. Raw clay samples from the locations of provenance have been taken. Since the whole of Central Italy is very rich in clay deposits, and considering the heavy weight of clay, the probability that any raw materi-

als were transported seems to be rather limited<sup>11</sup>. Therefore, it is hoped that some indications as to the location of production of the votive heads also can be established by comparisons of the analyses of raw clays and terracotta samples, at least by the exclusion of some locations as less probable candidates. Different combinations of similarities and deviations between derivable heads from different locations are being compared. The following conclusions could be expected by the combined observations of moulded and handmade parts and the analyses of the raw material:

<sup>10</sup> A. Comella, *Tipologia e diffusione dei complessi votivi in Italia in epoca medio- e tardo-repubblicana. Contributo alla storia dell'artigianato antico*. MEFRA 93, 1981, 794.

<sup>11</sup> However, see above, n. 5.



Fig. 7. Heads, photographs TE 3

1. If itinerant workshops caused the diffusion of mechanically derivable replicas found at different locations, the handmade backs would be similar, while the raw material would vary from one location to another.
2. Mechanically derivable heads from different locations with both similar clays and backs would indicate a central workshop distributing ready-made products, using the same clay deposit.
3. If the raw material as well as the backs vary between mechanically derivable replicas from different locations, this would suggest mould circulation.

Another possibility, mentioned above, the local remoulding of a traded replica, will not be considered here, since the heads being discussed here belong to the same mould generation.

Only two locations, Tessennano and Tarquinia, are represented in the preliminary results which will be reported here (Fig. 2). The petrographic microscopy

on thin sections of three heads from Tessennano, hence called TE1, TE2 and TE3, have been compared with two from Tarquinia, TA1 and TA2, together with three raw clay samples from Tarquinia, raw clay 1, raw clay 2 and raw clay 3.

Heads TE1, TE2, TA1 and TA2 all belong to the same mould sequence (Fig. 1a), deriving from a very worn mould, lacking all the details of the facial features and with only a couple of curls left on the right part of the central fringe (Figs. 3-5). Since they all belong to the same generation, local remoulding can safely be excluded as an explanation for the distribution of the type between the two locations. The backs are also very similar, as can be seen on Fig. 1a, suggesting that the same craftsman or workshop made all the four heads. Therefore, mould circulation does not have to be considered either. The two remaining possible ways of spreading the type are itinerant craftsmen and a central production. If the raw material on the two heads from Tarquinia, TA1 and TA2 corresponded to the raw clay samples 1-3 from Tarquinia, and if the two corresponding replicas from Tessennano did not, this would, no doubt, clearly suggest that an itinerant coroplast had moved between Tessennano (or some other, so far unidentified location of production for the replicas from Tessennano) and Tarquinia, carrying the worn mould, using the available clay recourses at each temporary location of production for the moulded front as well as for the handmade back. If, on the other hand, all four replicas showed similar raw materials, this would, instead, strongly suggest a central production spreading ready-made products. The analyses of the raw material do, in fact, support the latter alternative (Figs. 8-10), a central production for the four heads TE1, TE2, TA1 and TA2, which all have as already mentioned, close production parallels in the moulded as well as the handmade parts. With regard to their raw material, as can be seen in the laboratory report, the two heads from Tarquinia, TA1 and TA2, show closer parallels with TE1 and TE2 in the non calciferous clays and the mineralogy of the sand fractions than with any of the raw clay samples 1-3 from Tarquinia. Although the variation in grain size distribution does not *per se* support a common authorship, such an authorship can hardly be doubted in view of the close similarities of the handmade backs. The raw material analysis on TE3 from Tessennano, on the other hand, shows closer parallels with the Tarquinian clays than with any of the other heads.

This suggests that the heads from the votive deposit at Tessennano may have had different locations of production and that, at least one head, TE3, may have been manufactured in Tarquinia. Such a conclusion is further suggested, though not actually

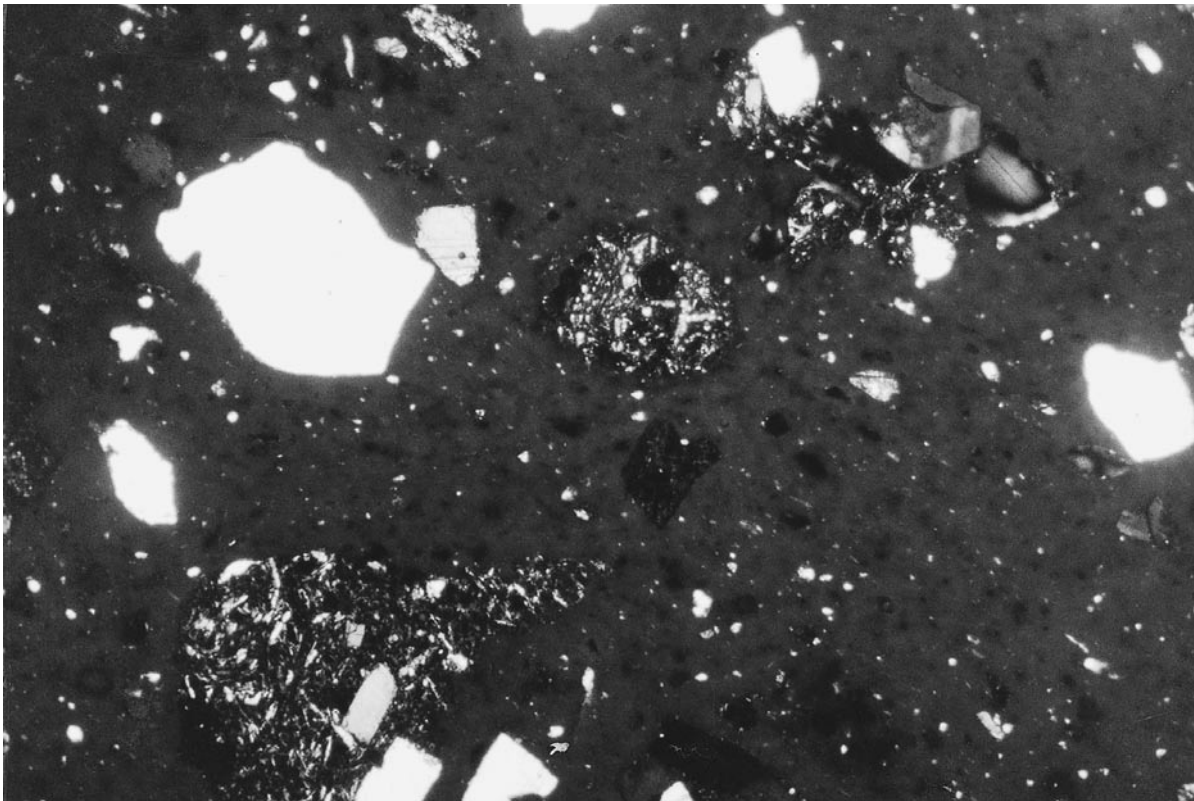


Fig. 8. Microphotograph of TE 2 (crossed nicols,  $\times 40$ ) (photo by A. Lindahl)

proved, by the fact that the TE3 type is represented at the votive deposit in Tarquinia at Porta Urbica by a fresh cast of a mould probably of the first generation<sup>12</sup>. With regard to the further progress of the research as a whole, it should be mentioned that the threefold comparison (1 moulded parts, 2 handmade parts, 3 raw material) of the derivable, moulded votive heads at different locations described above, provides several further examples of a central production as well as some very clear examples of mould circulation. There has, however, so far, not been found any indications of itinerant craftsmen. On the other hand, the number of samples in this preliminary report is very small and the conclusions may be quite different when all data is available.

#### THE LABORATORY ANALYSIS

by Anders Lindahl, Ole Stilborg

The laboratory analyses of the Etruscan votive heads have been carried out at the Laboratory of Ceramic research, Department of Quaternary Geology, University of Lund, Sweden. The aim of the analyses is

to study the use of raw material and to elucidate variations in the craft tradition. The raw material (clay, temper, etc.) is the basis for the ceramic production, even though the study of shape and forming technique constitutes an important part of ceramic investigation. The questions to which the laboratory investigation will help to find answers are as follows:

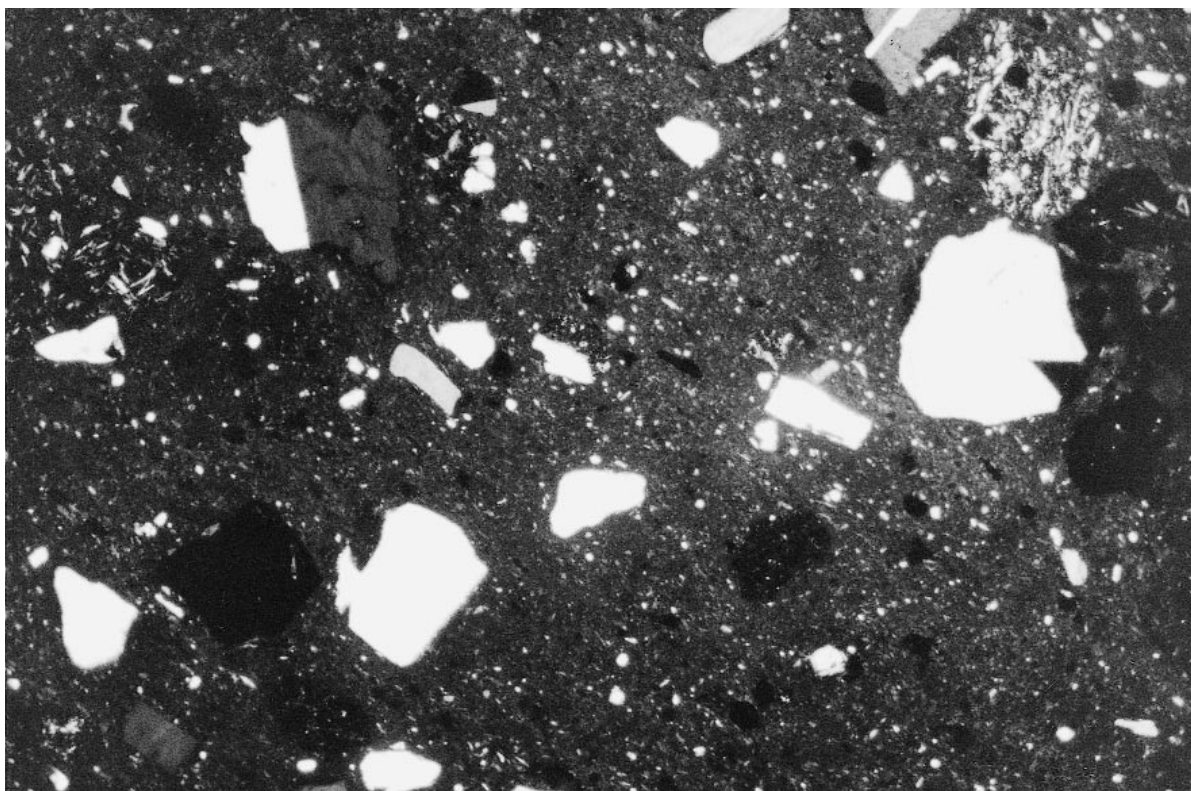
- 1) Is it possible to determine if the votive heads originate from the same raw material?
- 2) Is it possible to make suggestions about the location of production?

#### MATERIAL

The material comprises three samples of votive heads from Tessennano (sample no's TE1, TE2 and TE3), two samples from Tarquinia (samples no's TA1 and TA2) and three raw clay samples from Tarquinia (raw clays 1-3).

<sup>12</sup> Ara della Regina, Porta Urbica, G. Stephani, *Terrecotte figurate* (Archaeologica 38), Roma 1984, 34, no. 70.





*Fig. 9. Microphotograph of TA 2 (crossed nicols,  $\times 40$ ) (photo A. Lindahl)*

#### METHOD

The analysis is concentrated on petrographic microscopy of thin sections of the ceramic ware. The thin section is analysed under a polarising microscope in magnifications ranging from  $25\times$  to  $1000\times$ . This analysis makes it possible to identify different matter, diatoms, fossils accessory minerals and other impurities of the clay are studied.

The measurements and calculations performed on the coarse fractions of the ware are (1) the maximum grain size, (2) the mean value of the five largest grains in the sample (mean max. grain size) and (3) estimate of the amount of coarse fractions (grains larger than 0.1 mm).

#### RESULTS

Sample TE1 from Tessennano consists of an iron rich clay with few remains of calcium fossils and with a low amount of grains in the silt fraction. The maximum grain size is 2.5 mm and the mean maximum

grain size (a calculation based on the five largest grains in the thin section) is 1.7 mm. The amount of coarse fractions (grains larger than 0.1 mm) has been estimated as 16%. The sample contains a large variety of minerals common in a volcanic sand such as different types of feldspars, biotite, diopside, augite, grains of basalt and tuff as well as some grains of quartz.

Sample TE2 from Tessennano consists of an iron rich clay with few remains of calcium fossils and with a low amount of grains in the silt fraction. The maximum grain size is 2.0 mm and the mean maximum grain size (a calculation based on the five largest grains in the thin section) is 1.7 mm. The amount of coarse fractions (grains larger than 0.1 mm) has been estimated as 14%. The sample contains a large variety of minerals common in a volcanic sand, such as different types of feldspars, biotite, diopside, augite, grains of basalt and tuff as well as some grains of quartz.

Sample TE3 from Tessennano consists of calciferous silty clay with a large amount of calcium fossils

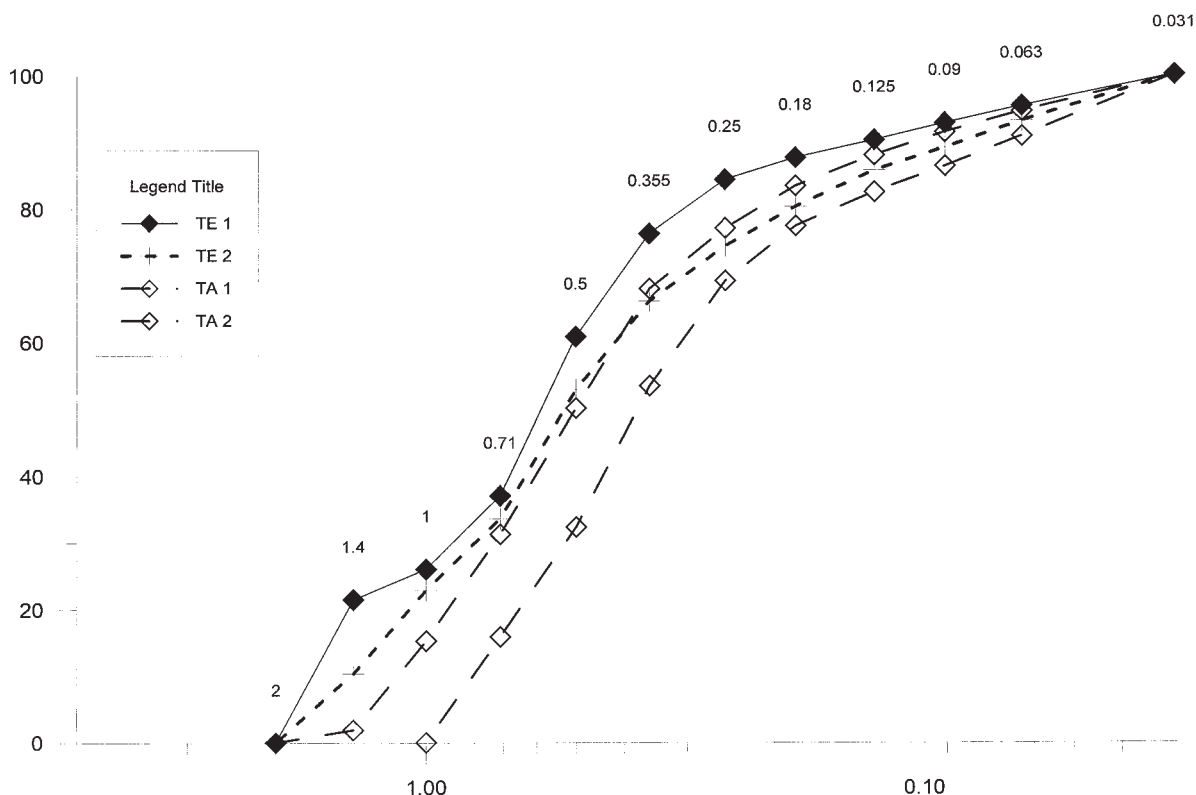


Fig. 10. Percentage distribution of the coarse fractions of TE1-2 and TA1-2

and poor in iron. The maximum grain size is 4.6 mm and the mean maximum grain size (a calculation based on the five largest grains in the thin section) is 2.9 mm. The amount of coarse fractions (grains larger than 0.1 mm) has been estimated as 22%. The sample contains a large variety of minerals common in a volcanic sand, such as different types of feldspars, biotite, diopside, augite, grains of basalt and tuff as well as some grains of quartz.

Sample TA1 from Tarquinia is a sorted iron rich clay with a low amount of grains in the silt fraction. The maximum grain size is 1.4 mm and the mean maximum grain size is calculated as 1.0 mm. The amount of coarse fractions (grains larger than 0.1 mm) has been estimated as 21%. The sample contains a large variety of minerals common in a volcanic sand, such as different types of feldspars, biotite, diopside, augite, grains of basalt and tuff as well as some grains of quartz.

Sample TA2 from Tarquinia is a sorted iron rich clay with a low amount of grains in the silt fraction. The maximum grain size is 1.6 mm and the mean

maximum grain size is calculated as 1.0 mm. The amount of coarse fractions (grains larger than 0.1 mm) has been estimated as 13%. The sample contains a large variety of minerals common in a volcanic sand, such as different types of feldspars, biotite, diopside, augite, grains of basalt and tuff as well as some grains of quartz.

*Raw clay 1* from Tarquinia is a sorted, calciferous clay, poor in silt. The clay contains a large amount of fossils. The maximum grain size is 0.8 mm (grain of fossil) and the mean maximum grain size is calculated as 0.7 mm. The predominant minerals are quartz and feldspars.

*Raw clay 2* from Tarquinia is a calciferous, sorted silty clay. The clay contains a large amount of fossils. The maximum grain size is 0.8 mm and the mean maximum grain size is calculated as 0.5 mm. The predominant minerals are quartz and feldspars.

*Raw clay 3* from Tarquinia is a calciferous, sorted clay, poor in silt. The clay contains quite a large amount of fossils but to a lesser extent as compared

to raw clays 1 and 2. The maximum grain size is 0.5 mm and the mean maximum grain size is calculated as 0.4 mm. The predominant minerals are quartz and feldspars.

#### CONCLUSIONS

The clay of TA1 and TA2 deviates from the clay used for the rest of the analysed Tarquinian samples, the latter being calciferous clays with rich contents of calcium fossils comparable to the local Tarquinian clays. The mineralogy of the sand fraction and the non calciferous clays in TA1 and TA2 have a closer parallel in samples TE1 and TE2 than in the other Tarquinian samples. On the other hand, the max. grain size and mean max. grain size TA1 and TA2 are clearly smaller than in T1 and T2. This does not support the theory that the same craftsman should have made all four heads. Furthermore, the amount of coarse grains in each of the two samples from Tessennano and in the sample TA2 are very similar, whereas sample TA1 from Tarquinia contains a notably larger amount. The temper in the ware of the heads is determined as deliberately

added volcanic sand, which most likely would be available in the same riverbeds as the clays. A sand sample from Lago di Bolsena has been analysed and is comparable to the temper material of the heads. Sample TE3 from Tessennano and the raw clays from Tarquinia have a close resemblance to one another (very calciferous clays with fossils in abundance). Based on this analysis of a limited number of samples from a large ongoing research of votive heads from Tessennano, Tarquinia, Vulci and Tuscania, we may say that the find from Tarquinia consist both of locally produced heads as well as heads imported from another site. Sample TA1 and TA2 from Tarquinia may have been made at the same location as the majority of the Tessennano samples judging from the raw material used. This location has however not been determined yet. TE3 from Tessennano have a close resemblance to the raw clays from Tarquinia and may have been produced there.

Lund 1995-09-27

Laboratory of Ceramic research, Dept. of  
Quaternary Geology, Lund University.



## An Inquiry into the Origins of Two Campidoglio Statues

Edith Balas and Faye Levine

In Rome, in the piazza di Campidoglio, stand two ancient statues of river gods called the “Tiber” and the “Nile”, whose origins are mysterious. They stand facing each other before the Senators’ Staircase on the Piazza. Each is in repose, naked to the waist, leaning on one arm and with the other outstretched. Each is of near-colossal proportions, resting on bases measuring five by three meters<sup>1</sup>. The Nile reclines on a sphinx and cradles in his arm a cornucopia; the Tiber also holds a cornucopia, and rests on the image of the She-Wolf suckling Romulus and Remus (figures 1 and 2). Dating from the second century A.D., they have survived above ground in Rome since antiquity; that is, they were never excavated<sup>2</sup>. In the Middle Ages, they stood on the Monte Cavallo, along with the Horse-Tamers (*Dioscuri*), which are also on the Campidoglio. During most of the Quattrocento they were believed to represent Saturn and Bacchus<sup>3</sup>. In 1480 they were identified as River Gods by Pomponio Leto, known to be a student of ancient spring and water worship<sup>4</sup>, “a learned collector of antique sculptures” and a secretary to Pope Leo X<sup>5</sup>. In 1510 they were thought to be “Neptunes” by Albertini<sup>6</sup>. In 1513 Andrea Fulvio identified them as the Lester (Danube) and Achelous (the longest river in Greece), but changed his opinion and in 1527 recorded them the Nile and the Tigris, in his guidebook<sup>7</sup>.

In 1517, the sculptures were moved to the Capitol’s Palazzo di Conservatori, and by 1552 Pope Leo X had acquired them for Michelangelo, who had them placed in the Piazza di Campidoglio as part of the renovation plan<sup>8</sup>. From whom Pope Leo acquired them is unknown. It is possible that he simply ordered the statues moved from Monte Cavallo; it is also possible that they were, at some point, in private collections. The river gods had been moved to the Palazzo di Conservatori by 1517.

Both river gods required some renovations. The statue called “Tigris” was the more damaged of the two: it is not certain what creature it originally leaned on – possibly a tiger or a crocodile<sup>9</sup>, but there is no way of knowing for certain. At Michelangelo’s suggestion, the damaged area was recarved into the shape of Romulus and Remus with the She-Wolf, in order, as Ackerman writes, “to suggest the scope of Roman culture by linking great rivers at home and abroad”<sup>10</sup>. The decision to alter the statue’s meaning was criticized<sup>11</sup>, but the work was done, and by 1568 it was being called the “Tiber” by Vasari<sup>12</sup>.

The trail of information regarding the river gods’ origins quickly fades when one delves into eras prior to the Middle Ages. What did they represent in antiquity? What did their symbolism signify? Who made them?

There are some indications that the sculptures may have been commissioned by the emperor Hadrian, may have had a connection with the cult of Mithras, and/or were an attempt to promote the spread of the cults of Isis and Antinous-Osiris. Though many doubts and contradictions remain, the possibilities should be explored.

Before we discuss these new hypotheses, the symbolism and meaning of river gods and water as used in Mithraism should be explored.

Mithraism originated on the central Iranian Plateau, and from there spread to India. As a religion, it covered both continents and centuries, surviving from approximately 1300 B.C. to 400 A.D. The cult came to Europe by way of Asia Minor in the first century B.C., when the Romans learned of it from Cilician pirates<sup>13</sup>, and was officially received in Rome around 80 A.D.<sup>14</sup>

Mithras was described as the god of mercy, light and the sun, the avenger of injustice, and the conqueror of evil. He was all-knowing, all seeing<sup>15</sup>. Water, springs, fountains, and rivers played a integral role in his cult. Cumont writes:

*[The followers of Mithras] worshipped alike the saline floods which filled the deep seas and which were termed indifferently Neptune and Oceanus, the springs that gurgled from the recesses of the earth, the rivers that flowed over its surface, and the placid lakes... A perpetual spring bubbled in the vicinity of the temples, and*

<sup>1</sup> Bober and Rubenstein, 101.

<sup>2</sup> *Ibid.*, 99.

<sup>3</sup> *Ibid.*, 101.

<sup>4</sup> Bober, 229.

<sup>5</sup> *Ibid.*, 226, 229, n. 3.

<sup>6</sup> Bober and Rubenstein, 101.

<sup>7</sup> Rubenstein, 259.

<sup>8</sup> Bober and Rubenstein, 102.

<sup>9</sup> Bober and Rubenstein, 101.

<sup>10</sup> Ackerman, 161.

<sup>11</sup> *Ibid.*, p. 161.

<sup>12</sup> Bober and Rubenstein, 102.

<sup>13</sup> Vermaseren, *Mithras*, 11, 13, 17.

<sup>14</sup> *The Encyclopedia of Religion*, Vol. 9, 580.

<sup>15</sup> Vermaseren, *Mithras*, 14-16.



*Fig. 1. The Campidoglio Nile, Photo Alinari/Art Resource, New York*



*Fig. 2. The Campidoglio Tigris-Tiber, Photo Alinari/Art Resource, New York*



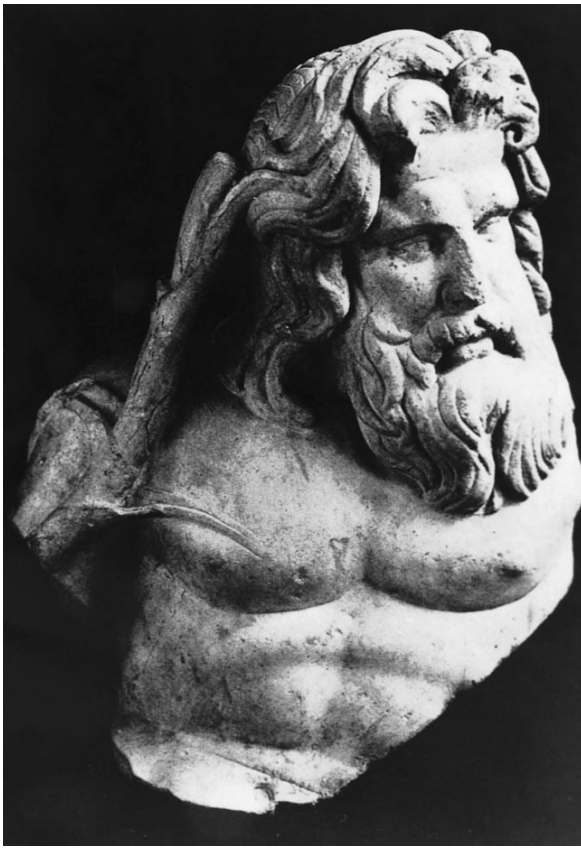


Fig. 3. *The Walbrook Oceanus*, E.J. Brill, 1965, *The Roman Art Treasures and the Temple of Mithras* (Special Paper No. 7). London and Middlesex Archeological Society, 1986.

*was the recipient of the homage and offerings of its visitors. The font perennial (fons perennis) was alike the symbol of the material and moral bonds that the inexhaustible generosity of Infinite Time scattered throughout the universe, that of the spiritual rejuvenation accorded to wearied souls in the eternity of felicity.*<sup>16</sup>

Water therefore had a prominent place in Mithraic ritual and myth, the Mithraists were known to practice a ritual cleansing of sin and guilt akin to baptism, especially among those who had been initiated into the third order of the religion, the rank of *Miles* (soldier)<sup>17</sup>. To them, water was not only the medium of purification but also the very source of souls<sup>18</sup>. Mithraism had a flood legend paralleling the story of Noah<sup>19</sup>, and one of Mithras' greatest deeds was producing water from a rock after Ahriman, the spirit of Darkness had sought to destroy mankind with a drought<sup>20</sup>. The cult's ideology included a doc-



Fig. 4. *The Santa Prisca Oceanus*, Vermaseren, M.J., *Mithras, the Secret God*, Chatto and Windus, 1963.

trine concerning life after death, in which water also played a role. Just as water was the giver of life and souls, it was also a border to be crossed at death<sup>21</sup>. Graeco-Roman gods of water were incorporated into the cult and its art after its import to Rome. The water deity most often represented in Mithraic art is Oceanus<sup>22</sup>. Despite his name, Oceanus was in fact a river god, the son of Earth and Heaven, who governed the Oceanids, spirits of rivers and streams, akin to Nereids. He was said to be a river himself, one which encircled the world at its edges. He had

<sup>16</sup> Cumont, 115.

<sup>17</sup> *Ibid.*, 145-157, 172-173.

<sup>18</sup> Proculus Diadochus, *Commentary on Timaeus*, 315. Quoted in Geden, 70.

<sup>19</sup> Cumont, 138.

<sup>20</sup> Cumont, 78.

<sup>21</sup> Toynbee, 26.

<sup>22</sup> For an excellent history of the spread of Mithraism, see Cumont. There is a revolutionary theory on Mithraism: D. Ulansey.





Fig. 5. *The Jurakalk Oceanus (Germany), Schwertheim, Elmer. Die Denkmäler Orientalischen Gottheiten im römischen Deutschland*

no specific cult of his own<sup>23</sup>, but his position as the father of all the springs and rivers and relative of the supernatural Underworld rivers (i.e., the Styx) was important<sup>24</sup>. All of these factors made Oceanus easy to assimilate into Mithraism. He is most often seen in Mithraic art as an attendant at Mithras' birth, an event at which he and the other deities of water were said to have pledged their support to the newborn god<sup>25</sup>. In these scenes Oceanus is presented in the same way as the Campidoglio statues: a massive, bearded figure, reclining and naked to the waste. The London Mithraeum at Walbrook yielded a fine example of a marble bust of a river god in repose, dating in the later second century A.D.<sup>26</sup>. The bust was apparently made to fit into a less expensive, plaster body, of which nothing remains<sup>27</sup>. Although the bust is generally labelled "Oceanus", J.M.C. Toynbee speculated that it might represent the Thames<sup>28</sup>. It sports the same beard, wavy hair, and general facial type as the Campidoglio figures, and rushes or some other river plant rest on its shoulder (figure 3). The

Aventine Mithraeum, located under the fifth-century basilica of Santa Prisca, very likely dates from the reign of Trajan, and received an addition from Septimius Severus in 202 A.D. It was again renovated in 220. At this time a statue was added, a reclining figure of Oceanus-Caelus, with long, wavy locks and draped legs (figure 4)<sup>29</sup>. Ferrua, an archeologist, suggests that a tube was connected with a water reservoir, and the left hand of the Oceanus held an amphora from which the water spouted like a fountain into the basin in front of the niche<sup>30</sup>. In Merida, Spain, a statue of Oceanus reclining on a dolphin

<sup>23</sup> *Encyclopedia of Religion*, Vol. 11, 53-54.

<sup>24</sup> *Ibid.*, 53-54.

<sup>25</sup> Vermaseren, *Mithras*, 78.

<sup>26</sup> Harris, 3, f. 3.

<sup>27</sup> *Ibid.*, 9, n. 5.

<sup>28</sup> Toynbee, 26.

<sup>29</sup> Vermaseren, *Mithras*, 44-46.

<sup>30</sup> Ferrua, quoted in M.J. Vermaseren and C.C. Van Essen 131.



Fig. 6. The Capua mask, Vermaseren, J.J., *Corpus Cultus Cybalae Attidisque*, Vol. III: *Italia-Latinum*. E.J. Brill, Leiden 1977 (plate CCXLIV).

was found in the remains of a Mithraic sanctuary dating from 155 A.D.<sup>31</sup>

Several reliefs come to us from Mithraeums in Germany. These include a reclining river god with a dolphin in high relief from Jurakalk (figure 5)<sup>32</sup>; a stele from Heddenheim, on which the lower half is inscribed *Oceanum*, and depicts a reclining god holding an anchor and a vase from which water flows<sup>33</sup>; a relief of a reclining Oceanus witnessing the birth of Mithras<sup>34</sup>; and the head or mask of a river god, in the round<sup>35</sup>.

There are a variety of other Mithraic examples, many in relief. These occur in the ancient localities; Virunum in Noricum, Siscia in Pannonia, Callatis in Moesia, also at Dieburg and Florence<sup>36</sup>. Oceanus is also shown in a fresco at Capua, and is portrayed in a mask from the same site (figure 6)<sup>37</sup>. Another interesting find is a statue of Attis (a god occasionally

connected with the Mithraic cult) reclining on the head of a river god (figure 7)<sup>38</sup>. There is a Mithraic oil lamp from the Roman period with the Oceanus-River present (figure 8).

With all the information and examples concerning figures of river gods in the cult of Mithras, the possibility of a connection between the Campidoglio statues and the cult is strong. We have a large variety of very similar figures, and a prominent place in Mithraic myth and iconography for river gods and water worship. In his satire *Menippus*, Lucian's narrator speaks of Mithraic baptism in the Tigris<sup>39</sup>. As for the Nile, the cult of Isis in Egypt involved reverence of the river and also a baptism<sup>40</sup>, and, as will be discussed below, was in some ways connected with the cult of Mithras.

Yet despite the above considerations, there are arguments against the direct involvement of the Campidoglio figures with the Mithraic cult.

The Campidoglio statues seem to be a pair: the same size and style, and of the same age; but in the Mithraic sanctuaries we know of, only *one* river god was depicted either in reliefs, or in the round. They are not in pairs. The fact that they "survived in Rome from Antiquity"<sup>41</sup> would suggest that they were always in the public eye, yet Mithraeums were private places, located partially or completely below ground<sup>42</sup>. Finally, their very size is a problem; at five by three meters, they individually would have been far too large for the typical Mithraeum<sup>43</sup>.

However, we cannot discount the possibility of these statues being associated with the cult. There is a possibility that without excavating them, the statues were brought up from the sanctuaries. As far as size is concerned, we must take into account the colossal (two and a half times life size) head and hand of Mithras found in the Walbrook Mithraeum, and a similar colossal hand of Mithras found in Chancery Lane, London, in 1845<sup>44</sup>.

Like the bust of Oceanus from the Walbrook sanctuary, these pieces seemed to be set up to fit into

<sup>31</sup> Vermaseren, *Mithras*, 556.

<sup>32</sup> Schwertheim, 51, entry 42b.

<sup>33</sup> Ibid., 82, entry 61c.

<sup>34</sup> Saxl, 70.

<sup>35</sup> Saxl, 70.

<sup>36</sup> Toynbee, 26-27.

<sup>37</sup> Vermaseren, *Mithraica I*: 8.

<sup>38</sup> Vermaseren, *Corpus Cultus* 123 and plate CCXLIV.

<sup>39</sup> Lucian, *Menippus*, ch. VI. Quoted in Geden, 41-42. Since this work is a satire, however, we might be inclined to question the accuracy of the relation of this proceeding.

<sup>40</sup> Tertullian, *De Baptismo*, ch. V. Quoted in Geden, 42-43.

<sup>41</sup> Bober and Rubenstein, p. 99.

<sup>42</sup> Vermaseren, *Mithras*, 38.

<sup>43</sup> Cumont, 170-171.

<sup>44</sup> Harris 9-10, n. 7.



Fig. 7. Attis reclining on the head of a river god, Vermaseren, M., *Mithraica IV, Le Monument d'Ottavio Zeno et le culte de Mithra sur le Célius*, Leiden, Brill, 1978

plaster bodies<sup>45</sup>. There are holes in the Oceanus and head and hand of Mithras which suggest that metal bars may have been inserted in order to attach the pieces to the rest of the original sculpture. (Similar strengthening was found in the Aventine/Santa Prisca statue of Oceanus). The question is, were there Mithraeums, now either lost or unknown to us, large enough to accommodate such objects? Of the Mithraeums of which we do have records, several are uncharacteristically large; the Mithraic temple of Deutsch-Altenburg near Vienna, for example, is twenty-three meters long by eight-and-a-half meters wide (sixty-nine by twenty-five-and-a-half feet), and the largest Mithraeum known to us, that of Sarmizegetusa, Romania, is twenty-six by twelve meters (seventy-eight by thirty-six feet)<sup>46</sup>.

We also know that some Roman Emperors openly supported Mithraism and were associated with particular monuments. As mentioned above, Septimius

Severus added to Aventine Mithraeum, which had quite likely been built during Trajan's reign. Had Trajan himself been connected with the original sanctuary, or had he at the very least tolerated the cult? Aurelian, Diocletian, and Julian also favored or followed the cult of Mithras<sup>47</sup>.

Perhaps the most intriguing potential connection between the Campidoglio sculptures and Antiquity lies with the emperor Hadrian (A.D. 117-138) and his circle.

It is well documented that Hadrian was an admirer and patron of the arts, as well as an artist himself. He was also a religious man, deeply interested in mystery cults. "The occult and religion always

<sup>45</sup> *Ibid.*, pp. 9-10, n. 7.

<sup>46</sup> Vermaseren, *Mithras*, 57-63.

<sup>47</sup> Cumont, 186, 199, 200.

<sup>48</sup> Lambert, 38.





Fig. 8. Mithraic oil lamp, from Roman period.

fascinated him” Royston Lambert writes. “He never lost an opportunity to dabble in mysteries, to explore or rebuild temples, to consult priests, oracles, and magicians... To some historians...Hadrian was a profound...mystic, seeking all his life for some communion with the absolute, some anticipation of the felicity beyond death...”<sup>48</sup>. To him, then, the Mithraic cult might have held a special appeal. Figures of reclining river gods were common on Hadrianic coinage<sup>49</sup>, and three Mithraeums have been discovered along Hadrian’s Wall<sup>50</sup>.

According to Porphyry, Hadrian was “the best exponent of the mysteries of Mithra”<sup>51</sup>.

It is also possible that the Campidoglio statues may have represented a conflation of the Mithraic and Egyptian cults, both of which involved the worship of water as a living power, baptism, and life beyond death. The river was an integral part of both religions, serving as the purifier, the source of life, and the border between life and death. And so we find portrayals of the reclining Oceanus on sarcophagi; a good example is currently in the Metropolitan Museum of Art (figure 9).

By 128-129 A.D., Hadrian was touring the eastern edges of the Roman empire, and the Near Eastern

religions, especially those dealing with the promise of redemption and afterlife, were gaining a large following<sup>52</sup>. In 130 A.D. Hadrian travelled to Egypt. “...Egypt was to leave a profound impression on Hadrian’s religious susceptibilities and imagination,” Lambert writes. “...the gods of the Nile, Serapis, Isis, and Osiris, were to seduce his loyalty”<sup>53</sup>. Serapis, it should be noted, very often appears in Mithraic sanctuaries; usually the god is represented as a head-only portrait which looks something like a cross between Aesclepius and a river god. A fine example of one such portrait was found in the Walbrook Mithraeum<sup>54</sup>. In addition, there seems to have been some blurring of the identities of the various deities; Martian writes, “... therefore they name Thee Phoebus ... Thee the Nile reveres as Serapis ... [and] other cults as Mithra...”<sup>55</sup>, and Vermaseren notes, “The god Serapis was sometimes equated with Saturn, but his presence in the Mithras cult proves that this Egyptian deity, often mentioned in the same breath as Isis, was adopted by the worshippers of Mithras...”<sup>56</sup>. Considering the degree of overlap among the various cults, it seems very likely that Hadrian at least knew and perhaps respected Mithraism, even if he were not a member of the cult.

It was during Hadrian’s trip to Egypt that his beloved, Antinous, a young man of about twenty, fell into the Nile and drowned. The Emperor was overwrought. According to Egyptian belief, anyone who drowned in the Nile was granted immortality, and so Hadrian, who apparently accepted this consolation, had his lover declared a god<sup>57</sup>. As his cult grew, Antinous was identified with many deities, most often with the Egyptian god of death and eternal life, Osiris<sup>58</sup>. Osiris was said to have returned to life after his dismembered body was thrown in the Nile; it was his sister-wife, the goddess Isis, who restored and revived him.

The similarities between the cults of Isis and Mithras are striking. Hadrian was definitely familiar with the former, and almost certainly with the latter. There is evidence to suggest that the importation of foreign mysteries was promoted in Rome.

<sup>49</sup> Toynbee, 26.

<sup>50</sup> Harris, 6.

<sup>51</sup> Porphyry. Cp. Euseb., *Prep. Evang.* 16.7. Quoted in Geden, 49.

<sup>52</sup> Lambert, 103.

<sup>53</sup> *Ibid.*, 116.

<sup>54</sup> See Toynbee.

<sup>55</sup> Martian, *De Nuptiis Philologiae et Mercurii*, Book II. Quoted in Geden, 85.

<sup>56</sup> Vermaseren, *Mithras*, 49.

<sup>57</sup> For an excellent account of Antinous’ death, “ascension,” and cult, see Lambert, chapters 10, 11, 14, and 15.

<sup>58</sup> Lambert, 139-142.



Fig. 9. Dionysiac sarcophagus from the Metropolitan Museum of Art; the "Badminton Sarcophagus". The Metropolitan Museum of Art, New York.

For example, Brummer writes, "... the combination of the two personifications [of the Nile and Tiber] can be explained as the result of the introduction of the Isis cult into Latium... It might also be noted that recently the same river gods were found not far from each other at Hadrian's villa"<sup>59</sup>. With this in mind, we may ask ourselves if the Campidoglio statues of the Nile and Tigris (now Tiber) might not have been a variation on this theme, produced as a symbol of Hadrian's acceptance of two powerful cults, one from Egypt, the other from the near East. We think they were indeed Mithraic, modeled after Roman standards of art, defiled, then brought into public view, for all of Rome to see and wonder at.

It is possible that the Campidoglio statues were connected with the Mithraic cult: similar reclining figures were found in the Mithraic sanctuaries, their subject matter the "river" is an important part of their purification cult, and there are ancient literary

documents connecting the Tigris and the baptism in the cult.

Between the first and fourth centuries A.D. more than one hundred Mithraic sanctuaries existed in Rome<sup>60</sup>. Therefore, the cult must have been important, prestigious and wealthy enough to patronize such grandiose art works. Finally art-historical literature offers no other convincing explanation for the origin of these statues.

#### BIBLIOGRAPHY

- Ackerman, James S., *The Architecture of Michelangelo*. University of Chicago Press, Chicago: [1961] 1986.  
 Bober, Phyllis P., and Ruth Rubenstein, *Renaissance Artists and Antique Sculpture: A Handbook of Sources*. Oxford University Press, Oxford: 1986.

<sup>59</sup> Brummer, 204.

<sup>60</sup> Vermaseren, *Corpus Inscriptionum* 151.

- Bober, Phyllis, P., The *Coryciana* and the Nymph Corycia. *Journal of the Warburg and Courtauld Institutes*, Vol. 40, 1977.
- Brummer, Hans Henrick. *The Statue Court in the Vatican Belvedere*. Almqvist and Wiksell, Stockholm, 1970.
- Campbell, Leroy A., *Mithraic Iconography and Ideology*. E.J. Brill, Leiden: 1968.
- Cumont, Franz, *The Mysteries of Mithra*. Translated by Thomas J. McCormack. Open Court Publishing Co., 1903; Dover Publications, Inc., New York, 1956.
- The Encyclopedia of Religion*, 1987. M. Eliade, editor. MacMillan Publishing Co., New York, Vols. 5, 9, 11, and 15.
- Geden, A.S., *Mithraic Sources in English*. Cthonios Books, Hastings, 1990.
- Harris, Eve and John R., *The Oriental Cults in Roman Britain*, E.J. Brill, Leiden, 1965.
- Lambert, Royston, *Beloved and God: The Story of Hadrian and Antinous*. Estate of the late Royston Lambert. Viking Penguin, Inc., 1984.
- Proculus Diadochus, *Commentary on Timaeus*, 315. Quoted in A.S. Geden, *Mithraic Sources in English*. Cthonios Books, Hastings, 1990.
- Rubenstein, Ruth, "The Renaissance discovery of antique river-god personifications" *Scritti di storia dell'arte in onore di Roberto Salvini*, Firenze 1984.
- Saxl, Fritz, *Mithras: Typengeschichtliche Untersuchungen*. Verlag Heinrich Keller, Berlin, 1931.
- Schwertheim, Elmar, *Die Denkmäler Orientalischen Gottheiten im Römischen Deutschland*. E. J. Brill, Leiden, 1974.
- Toynbee, J.M.C., *The Roman Art Treasures from the Temple of Mithras*, (Special Paper No. 7). London and Middlesex Archaeological Society, 1986.
- Ulansey, D., *The Origins of the Mithraic Mysteries*, Oxford University Press, 1989.
- Vermaseren, M.J., *Mithras, the Secret God*, translated by Vincent Meagaw, London: Chatto & Windus, 1963.
- Vermaseren, M.J., *Corpus Cultus Cybalae Attidisque*, E.J. Brill, Leiden, 1977 III Vols.
- Vermaseren, M.J. and C.C. van Essen, *Excavations in the Mithraeum of the Church of Santa Prisca in Rome*, E.J. Brill, Leiden, 1965.
- Vermaseren, M.J., *Mithraica I: The Mithraeum at S. Maria Capua Vetere*, E.J. Brill, Leiden, 1971.



# Der Spätarchaische Aphaiatempel von Aegina:

## Eine Besprechung von Bankels Buch

### A Review Article

J.A.K.E. De Waele

Der Aphaiatempel von Aegina, der eine Schlüsselstellung in der spätarchaischen Architektur einnimmt, verdankt seine Bekanntheit vor allem den Giebelskulpturen, die 1811 von C. Haller von Hallerstein, C.R. Cockerell und anderen entdeckt wurden und einige Jahre später von Johann Martin Wagner als Agent von Ludwig I. von Bayern für die Münchener Glyptothek angekauft wurden, wo sie als originale griechische Tempelskulpturen den Stolz der Sammlungen bilden.

Dem Tempel wurden seit seiner Entdeckung nicht weniger als vier Monographien gewidmet. Die erste ist einem der ersten Ausgräber, Charles Robert Cockerell, zu verdanken, der sie viele Jahre später veröffentlichte<sup>1</sup>. Nachdem die École Française d'Athènes 1846 gegründet worden war waren die 'Pensionnaires', d.h. die Architekten, die mit dem Prix de Rome ausgezeichnet worden waren, nicht nur in Italien tätig, sondern sie dehnten ihr Arbeitsterrain auch auf Griechenland und die Levante aus. Der Preisträger des Prix de Rome 1848, Charles Garnier, der später als Stadtbaumeister von Paris für die Oper verantwortlich sein sollte, bereitete während seines Aufenthaltes in Griechenland 1852-1853 auch eine Studie über den Aphaiatempel von Aegina vor<sup>2</sup>. Bei den zwei letzten Monographien ist der Impuls für das Studium des Tempels von München ausgegangen: Am Anfang dieses Jahrhunderts (1901) nahm der bekannte Archäologe Adolf Furtwängler<sup>3</sup> Nachgrabungen im Heiligtum von Aegina vor, bei denen weitere Skulpturfragmente ans Licht gebracht wurden; in der großen Publikation des Heiligtums wurde die Architektur des Tempels von Ernst Fiechter betreut, der darüber kurz zuvor promoviert hatte<sup>4</sup>. Nach dem letzten Weltkrieg wurde seit 1962 die Glyptothek unter dem Direktor Dieter Ohly neu eingerichtet. Ein alter Wunsch der Archäologen, schon durch Furtwängler ausgesprochen, wurde dabei erfüllt: Die Aegineten wurden 'entrestauriert', d.h. die Ergänzungen von B. Thorvaldsen wurden entfernt<sup>5</sup>. Zugleich begann man in Aegina auch mit einem umfangreichen Projekt, das auf weitere Detailstudien durch Grabungen zielte. Eine Serie von Untersuchungen war das Ergebnis. Dem Vorgänger des spätarchaischen Aphaiatempels, dem

'Älteren Porostempel', widmete E.L. Schwandner eine Studie<sup>6</sup>.

Die jetzt vorliegende Monographie von Bankel, der seit 1972 an Ohlys Forschungen teilgenommen hat, bietet dagegen eine vollständige Dokumentation der Architektur des spätarchaischen Tempels, die auf einer neuen Vermessung des Baues beruht und aus einem Gesamtkatalog der fast 1000 Bauteile besteht. Die Forschungen haben viel Zeit gekostet: im Jahre 1977 mit diesem Projekt begonnen, hat der Autor 1985 an der TU München bei Gruben promoviert, während der endgültige Text erst 1993 in einem monumentalen Band der 'Denkmäler antiker Architektur' vorlag.

Als Dokumentation ist die Arbeit an Genauigkeit kaum zu übertreffen und unschätzbar, aber als Interpretation eines antiken Bauwerkes ist der Versuch als verfehlt zu betrachten, weil der Autor mit einem falschen Schlüssel an den Entwurf herangeht, der dadurch verschlossen bleibt. Mit der falschen Maßeinheit versucht er nämlich, die in Meter gemessenen Maße in die vom Architekten angeblich beabsichtigte Fuß- und Daktylosmaße zu konvertieren. Dabei hat er jedoch wohl kaum den richtigen Vorgang, den er als den Entwurf des antiken Architekten betrachtet, rekonstruiert. Da dies ein grundsätzliches Bedenken gegen die Hauptthese des Verfassers ist, was ausführlich zu untermauern ist, sprengt dieser Aufsatz den Rahmen einer ursprünglich beabsichtigten normalen Buchbesprechung.

H. Bankel, Der spätarchaische Tempel der Aphaia auf Aegina (Denkmäler antiker Architektur, Band 19), Berlin - New York: W. de Gruyter, 1993. XI, 180 p., 81 pl., 96 abb., 34,5 cm. - ISBN 3-11-012808-X - P.. - 298 DM.

- Für die Korrektur der deutschen Fassung habe ich Studiendirektor Christoph Ohlig (Wesel) und Dr. Claudius Stumm (Nijmegen) aufrichtig zu danken.

<sup>1</sup> Cockerell 1860.

<sup>2</sup> Cat. Paris-Rome-Athènes 1982, 214-223; Garnier 1854; Garnier 1884.

<sup>3</sup> A. Furtwängler 1906.

<sup>4</sup> E. Fiechter, Der Tempel der Aphaia auf Ägina, (Diss. München), München 1904 (mir nicht bekannt).

<sup>5</sup> Ohly 1972, 85-112; Grunwald 1977, 243-259.

<sup>6</sup> Schwandner 1985.

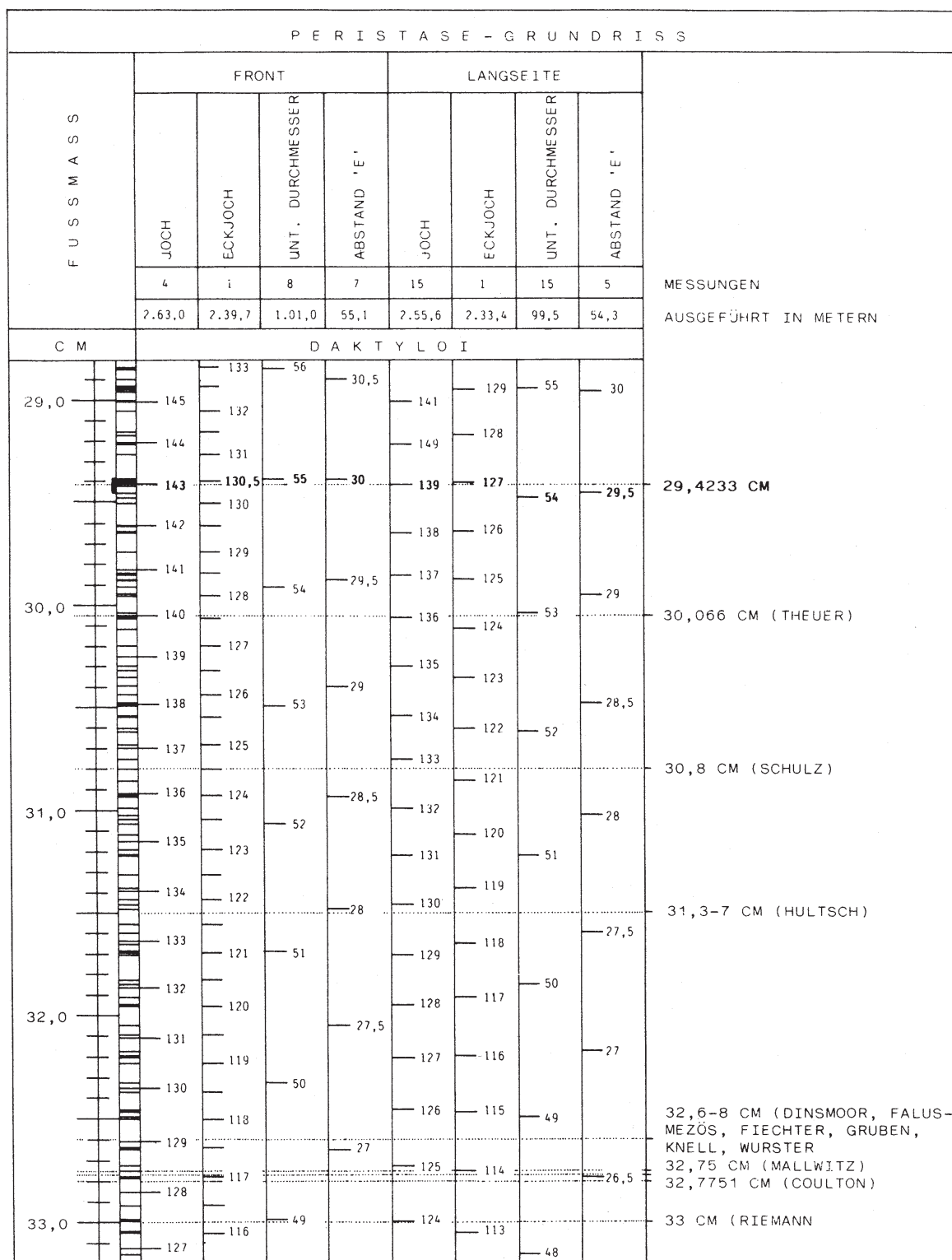


Abb. 1. Metrologische Skala des Grundrisses der Peristase (nach Bankel 1993, 118, Abb. 66)

Bankels Buch ist in folgende fünf Teile gegliedert: Nach einer kurzen Einführung, in der der Stand der Dinge und die Studien seiner Vorgänger skizziert werden, werden die Umstände und Gründe der eigenen Untersuchung dargelegt. Kapitel I (S. 1-115) stellt einen Katalog aller Bauteile des Tempels dar, wobei nacheinander Peristasis, Cella, Dach, Material und Technik, Genauigkeit und Bauprozess zu Sprache kommen. Dieser Teil bildet die Dokumentation des Tempels, die in ihrer Fülle und Genauigkeit weit über die Arbeit Fiechters hinausgeht und wohl kaum zu übertreffen ist. In Kapitel II (S. 117-149) wird der 'Entwurf' behandelt, in dem Bankel auf eigene Weise mit Hilfe der 'Metrologischen Skalen' die von ihm entwickelte Methode der Bestimmung der Maßeinheit darlegt, welche er dann auf Grundriß und Aufriß anwendet. Daraufhin versucht er, die unterschiedlichen Phasen aus dem ausgeführten Plan zum antiken Entwurf und Vorentwurf zurückzuverfolgen. In Kapitel III (S. 150-171) wird der Tempel auf dem Hintergrund gleichzeitiger Bauten und Architekturformen innerhalb der attisch-kykladischen Architektur gesehen. Ein kurzes Nachwort (IV. S. 172) und die Aufnahmeskizzen zur Architektur von C. Haller von Hallerstein (V. S. 173-178) beschließen den Text. Die Tafeln geben sehr qualitätsvolle Abbildungen (Taf. 1-36) einer Auswahl der wichtigsten Baufragmente und einiger wichtige Kleinfunde wie 'Bleistifte' und Stuckierwerkzeuge. Kopien der Zeichnungen von Haller von Hallerstein aus der Bibliothek von Strasbourg (Taf. 36-53) werden hier in Faksimile vorgelegt. Schließlich werden sehr genaue Bauaufnahmen (Taf. 54-81) vom Tempel im Maßstab 1:50 veröffentlicht, alle von guter Qualität. Nur bei Taf. 81 würde man vielleicht Fiechters Vorlage bevorzugen.

#### 1. DIE MAßEINHEIT: DER IONISCHE ODER DER DORISCHE FUß?

Als Katalog der Bauteile und als Dokumentation ist Bankels Arbeit unübertroffen und äußerst wichtig; sobald der Autor jedoch die Übersetzung der Maße in die von ihm postulierte Maßeinheit, den ionischen Fuß (29,4233 cm), durchführt, ist die Untersuchung auf dem falschen Weg. Eine solche Umrechnung der Meßwerte in 'antike' Daktyloi, die in der Tradition der deutschen Bauforschung steht, ist nicht die antike Weise, wie sie in den Bauinschriften erscheint, und sie führt darum nicht zum richtigen Ziel, nämlich den Entwurf des antiken Architekten wiederzufinden. Es geht darum, die im Feld in Metern gemessene Maße in die antiken Abmessungen, in den vom Architekten benutzten Fuß, zu konvertieren. Bankel glaubt, diese Maßeinheit des Architekten mit

Hilfe der von ihm entwickelten 'metrologischen Skalen' (Abb. 1) erkennen zu können<sup>7</sup>. Generell entwickelt er für alle verschiedenen Abmessungen oder Bauteile acht solcher metrologischen Skalen. Er setzt die Hauptabmessungen des Baus, Säulendurchmesser, Interkolumnium, Joch, Stylobat usw., auf eine 'metrologische Skala' und berechnet dann den Daktylos (") als  $\frac{1}{16}$  des Fußmaßes, indem er bei den Maßen der Bauteile den größten gemeinsamen Nenner ('common divisor') feststellt, mit dem die Abmessungen möglichst präzise in runden Daktyloswerten wiederzugeben sind. So kommt er zu einem Daktylos (=  $\frac{1}{16}$  Fuß) von 1,8390 cm, der zum ionischen Fuß von ( $16 \times 1,8390 \text{ cm} =$ ) 29,4233 cm gehört<sup>8</sup>. Alle Abmessungen des Baues wären so in Daktyloi auszudrücken. Mit dieser Maßeinheit, dem 'Ionischen Fuß' zu 29,4233 cm (und dem sich daraus ergebenden Daktylos von 1,839 cm), der nach ihm der Fuß des Architekten des Aphaia-tempels wäre, weicht Bankel völlig vom Fußmaß ab, das von den meisten Bauforschern für den Aphaia-tempel angenommen wird. Durchweg wird nämlich der Dorische Fuß von 32,6 – 32,8 cm unterstellt. Inzwischen hat auch Gruben sich im letzten (4.) Druck seines Buches durch Bankel überzeugen lassen<sup>9</sup>.

An der Frontseite ist nach Bankel (Abb. 1-2) das Normaljoch 143" und das Eckjoch  $130\frac{1}{2}"$ , während an der Langseite das unkontrahierte Joch 139", die Eckjoche aber 127" betragen hätten. An der Langseite wären die Interkolumnien (= Joch minus unterer Durchmesser)  $139" - 54" = 85"$ . Der untere Säulendurchmesser der Frontseiten betrüge 55", so daß für das Interkolumnium (= Joch minus unterer Durchmesser)  $143" - 55" = 88"$  blieben. In diesem Verhältnis von Durchmesser : Interkolumnium von 55" : 88" (oder 5 : 8) sieht Bankel einen wichtigen Anhaltspunkt für die Planung des Tempels.

Auf den ersten Blick erscheinen die Abmessungen des Stylobats nach Bankel als runde Maße:  $750" \times 1565"$ . Die Breite der Cella wäre 450", die der beiden Längsptera 150". Diese Hauptabmessungen wären nach ihm in Sprüngen von 30 Daktyloi entworfen:<sup>10</sup>

<sup>7</sup> Wesenberg 1984; Wesenberg 1995.

<sup>8</sup> Bankel 117: "Der griechische Fuß wurde im allgemeinen durch fortlaufende Halbierung bis zu einem Sechzehntel, dem Daktylos, geteilt (1 F = 16")."

<sup>9</sup> Gruben 1980, 118-119: "Die harmonische Ausgewogenheit, die den Bau über alle seine archaischen Vorläufer erhebt, beruht auf einer klar durchdachten Proportionierung, die in der Einheit des dorischen Fußes von 32,8 cm konzipiert ist. So ist die Säulenhöhe (= 16 Fuß) = doppelter Säulenabstand (8 Fuß), die Gebäuhöhe =  $\frac{1}{3}$  Säulenhöhe." Im letzten Druck (1986) erscheint diese Passage als: "inselionischen Fußes von 29,4 cm konzipiert ist. So ist die Säulenhöhe (=  $17\frac{7}{8}$  Fuß) = doppelter Säulenabstand ( $8\frac{15}{16}$  Fuß)".

<sup>10</sup> Bankel 1993, 122; 146, Abb. 81.





meistens in Fuß, Halbfuß und Viertelfuß ausgedrückt<sup>14</sup>. In der klassischen Zeit sind in jedem Fall Tausendzahlen von Daktyloi, soweit mir bekannt, inschriftlich nicht belegt.

Was bei den Umrechnungen der modernen Bauforscher immer wieder erstaunt, ist die Ausführungsgenauigkeit, die sie nach dieser Methode in den antiken Bauten beobachten. Zum Dorischen Fuß von 32,72 cm gehört der Daktylos von  $(32,72 : 16 =) 2,045$  cm. Wenn man nun jede Zentimeterangabe durch 2,045 cm teilt, bekäme man den Daktyloswert dieses Dorischen Fußes. Bei den Konversionen der Zentimeterangaben in Dorische Fuß ist die Ausführungsgenauigkeit also nie mehr als 2,0 cm, da man sonst zu dem nächsten Daktyloswert käme.

9 cm =  
10 cm = 5 Daktyloi = zwischen 9 und 11 cm  
11 cm =  
12 cm = 6 Daktyloi = zwischen 11 und 13 cm, usw.  
13 cm =

Jede Zentimeterangabe wäre somit in solchen Daktyloi mit einer Genauigkeit von 2,0 cm auszudrücken. Mit dieser Methode könnte man alle Abmessungen eines Tempels in jede beliebige Maßeinheit, z.B. einen Britischen, Rheinländischen, Bayrischen usw. Fuß und in den dazu gehörenden Daktyloswert umrechnen. Man muß sich jedoch fragen, ob mit der zugrundegelegten Maßeinheit wirklich das antike, vom Architekten zugrundegelegte Fußmaß wiedergefunden ist<sup>15</sup>.

Wir haben die antike Weise des Entwerfens zu rekonstruieren. In den antiken Inschriften werden immer wieder Standardquadergrößen genannt. Wenn nun im Bau eines Tempels immer die gleichen Quadergrößen erscheinen, dann ist nach dieser Aussage zu untersuchen, ob der Grund solcher Quadergrößen zu ermitteln ist. Dabei spielt bekanntlich die Fugenkonkordanz eine Rolle, auf die auch Bankel hinweist<sup>16</sup>. Die Abmessungen der Quader in der Breite und der Länge des Stereobates sind so gewählt, daß die Jochgrößen – auch bei Eckkontraktion – schon in den untersten Quaderschichten vorbereitet werden. Dadurch wirkt der Stylobat mit seinen Platten für Säulen und Interkolumnien wie ein Schachbrett, auf dem die Standorte der Säulen – und infolgedessen der Joche –, die bei dem Entwurf bestimmend sind, festgelegt werden. Wenn die Joche durch Quadergrößen also in antiken Maßen auszudrücken sind, die untereinander um  $\frac{1}{4}$  F differieren, wie dies tatsächlich beim Aphaiatempel von Aegina der Fall ist, dann muß man weiter untersuchen, ob auch die anderen Abmessungen in dieser Maßeinheit auszudrücken sind und ob dies vielleicht die vom antiken Architekten beabsichtigten Dimensionen des Baues sind.

Für den Tempel von Aegina ist von den meisten Forschern seit Fiechter der Dorisch-Pheidonische Fuß von 32,6-32,8 cm vermutet worden. Zuvor wurden in verschiedenen früheren Untersuchungen andere Maßeinheiten unterstellt<sup>17</sup>. Mit dem dorisch-peidonischen Fuß von 32,8 cm hatte schon Fiechter die wichtigsten Tempelmaße erkannt<sup>18</sup>: nämlich die Jochweite von 8 F und die Säulenhöhe von 16 F (= doppelte Jochweite).

## 2. DAS JOCH (ABB. 3)

### *Das Joch (Tabelle 1)*

Aus den Normaljochweiten habe ich eine Maßeinheit von 32,875 cm erschlossen, da die verschiedenen Joche der Front- und Langseite (sowohl das Normaljoch als das Eckjoch) sich hier in ihrer Größe um Viertelfüße (8 F,  $7\frac{3}{4}$  F,  $7\frac{1}{4}$  F und 7 F) unterscheiden:

Frontseite		Sollmaß	Istmaß
Normaljoch	8 F $\times$ 32,875	= 2,63 m <sup>19</sup>	–
Eckjoch	$7\frac{1}{4}$ F $\times$ 32,875	= 2,38,3 m	2,39,7 m
Langseite			
Normaljoch	$7\frac{3}{4}$ F $\times$ 32,875	= 2,54,7 m	2,55,6 m
Eckjoch	7 F $\times$ 32,875	= 2,30,1 m	2,33,4 m

Das Normaljoch der Frontseite (8 F) bestand, wie man aus der Tabelle ersehen kann, aus dem unteren Säulendurchmesser (3 F) und dem Interkolumnium (5 F). Das Verhältnis unterer Durchmesser : Interkolumnium war also in einfachen Fußmaßeinheiten (3:5) ausgedrückt, was zwar dem von Bankel vertretenen Verhältnis (5:8) approximativ nach der Fibonacci-Serie nahekommt, aber nicht exakt gleich ist<sup>20</sup>. Das Normaljoch der Langseite war auf  $7\frac{3}{4}$  F

<sup>14</sup> In den Bauinschriften werden von Holzbrettern und -balken werden Maße in Daktyloi wiedergegeben. Davon abgesehen, daß man für solche Zahlen einen Taschenrechner brauchen würde, sind solche Ziffern zwar für Geldbeträge dokumentiert, aber in den Bauinschriften werden die Abmessungen anders ausgedrückt.

<sup>15</sup> Bankel (1993, 120), wo die Einheiten von Theuer (30,066 cm), Schultz (30,8 cm) und Hultsch (31,3-31,7 cm) angeführt werden.

<sup>16</sup> Bankel 1993, 8 und passim.

<sup>17</sup> Bankel 1993, 120.

<sup>18</sup> E. Fiechter, in: A. Furtwängler, Aegina, 52: "Vielfach scheint ein Fußmaß von 327 oder 326 mm besser zu passen, als das von 328 mm."

<sup>19</sup> Aus diesem Wert wurde das Grundmaß von 32,875 cm bestimmt.

<sup>20</sup> Natürlich sind in allen Maßwerten auch die Proportionen implizit einbezogen. 3:5 = 5:8 sind als Zahlenverhältnisse der Fibonacci-Serie Annäherungen. So kommt auch 55:88 viel näher an 3:5 als 5:8.

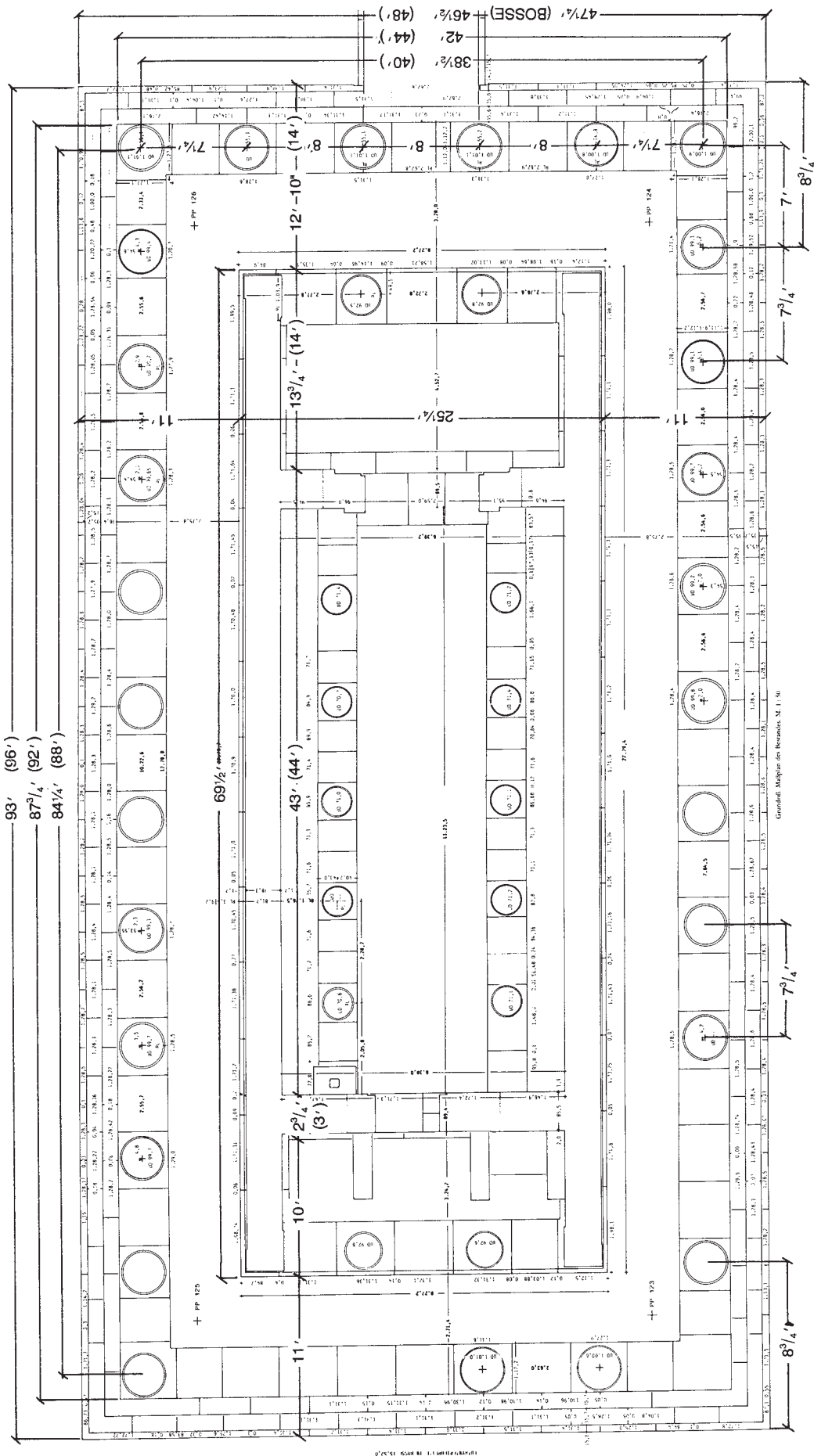


Abb. 3. Der Entwurf nach dem Vf. (Grundriß nach Bankel)



eingekürzt. Der untere Durchmesser der Längsjoche (0.99,5 m) war wohl auch als 3 F gemeint, so daß für das Interkolumnium ( $7\frac{3}{4}$  F – 3 F =)  $4\frac{3}{4}$  F blieben.

### 3. DIE BREITE (ABB. 3)

#### 3.1. Die Achsbreite (Tabelle 2)

Um die Achsbreite zu ermitteln, sind die Joche der Frontseite zusammenzunehmen. Mit dem Dorischen Fuß von 32,875 cm ist die Achsbreite  $38\frac{1}{2}$  F.

#### 3.2. Die Stylobatbreite (Tabelle 3)

Für die Stylobatbreite ist an beiden Seiten (d.h. zweimal der Abstand von der Säulenmitte zum Stylobatrand)<sup>21</sup>  $2 \times 0.55,25$  m (= 1.10,5 m) hinzuzufügen.

#### 3.3. Die Euthynteriebreite (Tabelle 4)

Die Euthynterie wurde zum Teil in der Bosse gelassen. Ohne die Bossen beträgt die Euthynteriebreite  $46\frac{1}{2}$  F, einschließlich der Bossen aber ist sie  $47\frac{1}{4}$  F. Die Bosse beträgt also: 0.24,3 m oder  $\frac{3}{4}$  F. Wir werden sehen, daß die Euthynteriebreite von  $46\frac{1}{2}$  F für das Verhältnis des Grundrisses von größter Wichtigkeit ist.

### 4. DIE LÄNGE (ABB. 3)

#### 4.1. Die Achslänge (Tabelle 5)

Bei 12 Säulen war die Achslänge mit 11 Interkolumnien ( $9 \times$  Normallängsjoche + 2 Ecklängsjoche)  $84\frac{1}{4}$  F.

#### 4.2. Die Stylobatlänge (Tabelle 6)

Die Stylobatlänge besteht aus der Achslänge, vermehrt um zweimal E (= 1.12,2 m), d.h. dem Abstand von der Säulenmitte bis zur Stylobatrand

#### 4.3. Die Euthynterielänge (Tabelle 7)

Man hat sich zu fragen, wie das Verhältnis von Breite zu Länge zustande gekommen ist. Damit hängt engstens zusammen, welchen Prinzipien der Architekt beim Bau des Aphaia-tempels gefolgt ist. Bei einem klassischen Hekatompedos, wie dem Hephaisteion in Athen oder dem Poseidontempel in Sunion und vielen anderen, hat der Architekt sich meines Erachtens einer Faustregel bedient, die lautet: "Die Abmessungen des Tempels in der Euthynterie oder im Stereobat betragen: Säulenzahl mal Jochweite." Wäre der Aphaia-tempel also nach der Faustregel unkontrahiert mit einheitlichen Normaljochen geplant gewesen, dann hätten die Abmessungen betragen:

Stereobat/Euthynterie:

Säulenzahl		× Joch	
Breite	6	× 8 F	= 48 F
Länge	12	× 8 F	= 96 F

Stylobat (minus 4 Stufen zu 1 F)

Breite	(48 F – 4 × 1 F =)	44 F
Länge	(96 F – 4 × 1 F =)	92 F

Achsmaße

(ohne Eckkontraktion)

Breite	(44 F – 4 F =)	40 F
Länge	(92 F – 4 F =)	88 F

Der Architekt konnte vom Verhältnis (1:2) in der Euthynterie ausgehen. Wie wir sahen, hat er jedoch die Eckkontraktion schon im Stereobat vorbereitet. Er hat dabei versucht, dasselbe Verhältnis 1:2 beizubehalten. Wenn die Breite  $46\frac{1}{2}$  F betrug, würde die Länge das Doppelte sein: 93 F<sup>22</sup>.

### 5. DIE EINTEILUNG DES TEMPELS IN DER BREITE (Tabelle 8)

Die Idealbreite der Euthynterie nach der Faustregel, also ohne Eckkontraktion, wäre ( $6 \times 8$  F =) 48 F. Die 'klassische' Einteilung des Tempels in Ptera und Naos wäre in der Breite gewesen:

12 F für die Ptera, und

24 F für den Naos.

Man erkennt jedoch, wie die Kontraktion durchgeführt wurde, indem

11 F für die Ptera genommen, und

$24\frac{1}{2}$  F für die Naosbreite (im aufgehenden Mauerwerk gemessen)<sup>23</sup> gelassen wurden.

Die Eckkontraktion wurde vom Stereobat aus durchgeführt und in den Quadergrößen ausgedrückt. Die 6 mittleren Quader haben die Standardgröße von 4 F ( $6 \times 4$  F = 24 F), so daß sie mit drei Jochgrößen gleichkommen, was mit der Cellabreite im aufgehenden Mauerwerk korrespondiert.

Nach der Außenseite hin wurden an den drei äußersten Quadern Verkürzungen (11 F statt 12 F) vorgenommen. Der drittletzte Block wurde um ( $4$  F –  $3\frac{3}{4}$  F =)  $\frac{1}{4}$  F und der letzte wurde gleichfalls um ( $5\frac{1}{2}$  F –  $5\frac{1}{4}$  F =)  $\frac{1}{4}$  F eingekürzt. Ohne Einkürzung wären die drei letzten Blöcke ( $5\frac{1}{2}$  F +  $2\frac{1}{2}$  F + 4 F =)

<sup>21</sup> Von Bankel 'E' genannt; vgl. Tabellen 3, 6.

<sup>22</sup> Dabei ist die Breite  $46\frac{1}{2}$  F ohne die Bossen, aber die Länge mit den Bossen insgesamt 93 F.

<sup>23</sup> Im aufgehenden Mauerwerk war der Naos  $24\frac{1}{2}$  F oder 8.02,6 m breit, einschließlich des vorspringenden Toichobats  $25\frac{1}{4}$  F oder 8.28 m.

TABELLE 1: Das Joch					
	Istmaß	Bankel 1 Dakt. = 1,8390 cm	Fuß (32,875 cm)	Sollmaß	Diff.
Frontseite					
NJ	2.63 m 2.62,9 m	143"	8 F	(2.63 m)	(0) <sup>24</sup>
Eckjoch	2.39,7 m	130½"	7¼ F	2.38,3 m	+ 1,4
unterer Dm	1.01,0 m	55"	3 F	0.986 m	+ 2,4
Interkolumnium	1.62,0 m	88"	5 F	1.64,3 m	– 1,3
Langseite					
NJ	2.55,6 m	139"	7¾ F	2.54,7 m	+ 0,9
Eckjoch	2.33,4 m	127"	7	2.30,1 m	+ 3,3
unterer Dm	0.99,5 m	54"	3 F	0.986 m	+ 0,9
Interkolumnium	1.56,1 m	85"	4¾ F	1.56,1 m	–

TABELLE 2: Die Achsbreite					
	Istmaß	Bankel 1 Dakt. = 1,8390 cm	Fuß (32,875 cm)	Sollmaß	Diff.
Eckjoch	2.39,7 m	130½"	7¼ F	2.383 m	(+ 1,4)
3 Normaljoche	7.88,9 m	429"	24 F	(7.89 m)	(–)
Eckjoch	2.39,7 m	130½"	7¼ F	2.383 m	+ 1,4
Achsbreite	12.68,3 m	690"	38½ F	12.656 m	(+ 2,8)

TABELLE 3: Die Stylobatbreite					
	Istmaß	Bankel 1 Dakt. = 1,8390 cm	Fuß (32,875 cm)	Sollmaß	Diff.
Achsbreite	12.68,3 m	690"	38.5 F	12.65,6 m	+ 4,6
2 × 'E'	1.104 m	60"	3.50 F	1.15,0 m	+ 0,3
Stylobatbreite	13.788 m	750"	42 F (<41.93 F) <sup>25</sup>	13.807 m	– 1,9

<sup>24</sup> Aus dieser Jochweite habe ich die Maßeinheit des Fußes zu 32,875 cm festgelegt.

<sup>25</sup> W.B. Dinsmoor 1950, 106: "The columns are 3 Doric feet in diameter, and their axial spacing, at least on the fronts, 8 Doric feet (slightly less on the flanks) the width of the stylobate being 42 ½ Doric feet."

TABELLE 4: Die Euthynteriebreite					
	Istmaß	Bankel 1 Dakt. = 1,8390 cm	Fuß (32,875 cm)	Sollmaß	Diff. (cm)
Stylobatbreite	13.78,8 m	750"	42 F	13.80,7 m	– 1,9
Stufen und Euthynteriesaum	0.86,8 m (×2)	94"	5¼ F	1.72,5 m	– 0,9
Euthynteriebreite (in der Bosse)	15.52,4 m	844"	47¼ F (<47.21 F)	15.45,1 m	+ 6,9
Euthynteriebreite (ohne Bosse)	15.27,7 m	830"	46½ F	15.28,6 m	– 0,9

TABELLE 5: Die Achslänge					
	Istmaß	Bankel 1 Dakt. = 1,8390 cm	Fuß (32,875 cm)	Sollmaß	Diff. (cm)
Eckjoch	2.33,4 m	127"	7 F	2.30,1 m	+ 3,3
9 Längsjoche	(23.01,9 m) <sup>26</sup>	9 × 139"	9 × 7.8 F= 70¼ F	23.07,8 m	– 5,9
Eckjoch	2.334 m	127"	7 F	2.30,1 m	+ 3,3
Achslänge	27.68,7 m	1505"	84¼ F	27.69,7 m	+ 0,7

TABELLE 6: Die Stylobatlänge					
	Istmaß	Bankel 1 Dakt. = 1,8390 cm	Fuß (32,875 cm)	Sollmaß	Diff. (cm)
Achslänge	27.68,7 m	1505"	84¼ F	27.69,7 m	– 1
2 × 'E'	1.12,2 m	60"	3½ F	1.15,0 m	– 2,8
Stylobatlänge	28.80,9 m	1565"	87¾ F	28.84,7 m	– 3,8

TABELLE 7: Die Euthynterielänge					
	Istmaß	Bankel 1 Dakt. = 1,8390 cm	Fuß (32,875 cm)	Sollmaß	Diff. (cm)
Stylobatlänge	28.80,9 m	1565"	87¾ F	28.84,7 m	– 3,8
Stufen und Euthynteriesaum	1.73,6 m	94"	5¼ F	1.72,5 m	+ 1,1
Euthynterielänge	30.54,5 m				
(in der Bosse)	30.54,9 m <sup>27</sup>	1653"	93 F	30.57,3 m	– 2,4
Euthynterielänge	30.30,6 m	1648"	92¼ F	30.32,7 m	– 2,7

<sup>26</sup> Die Joche sind nur global zu berechnen, weil nicht alle Säulen der Langseiten erhalten sind.

<sup>27</sup> 30.54,5 m entsteht durch Addition, 30.54,9 m wurde von Bankel gemessen.



TABELLE 8: Einteilung des Tempels in der Breite (cf. Bankel 78)							
	Istmaß			Fuß (32,875 cm)		Sollmaß	Diff. (cm)
Euthynterie	0.15,2 m	} 0.86,8 m	} 3.62,6 m	2 F10"	} 11 F	3.61,6 m	+ 1
Unterstufe	0.35,2 m						
Oberstufe	0.36,4 m	} 2.75,8 m	} 8.28 m	8 F 6"	} 25¼ F	8.30 m	– 2
N-Pteron	2.75,8 m						
Toichobat	0.12,7 m	} 2.75,8 m	} 3.62,5 m	8 F 6"	} 11 F	3.61,6 m	+ 0,9
N-Wandstärke	0.81,7 m						
im Lichten	6.39,2 m	} 0.86,7 m	} 2 F10"				
S-Wandstärke	0.81,7 m						
Toichobat	0.12,7 m	} 15.53,2 m <sup>28</sup>	} 47¼ F			15.53,3 m	– 0,1
S-Pteron	2.75,8 m						
Oberstufe	0.35,5 m	} 15.27,8 m	} 46½ F <sup>29</sup>			15.28,4 m	– 0,8
Unterstufe	0.35,7 m						
Euthynterie	0.15,6 m						
Stereobatbreite (mit Bosse)	15.53,2 m <sup>28</sup>						
(ohne Bosse)	15.27,8 m						

12 F gewesen, aber sie wurden bis ( $5\frac{1}{4}$  F +  $2\frac{1}{2}$  F +  $3\frac{3}{4}$  F =)  $11\frac{1}{2}$  F eingekürzt.

Ich habe den Eindruck, daß sich aus dem Quaderschnitt (Tabelle 9), mehr als aus der Einteilung in der Breite (Tabelle 8), die Absicht des Architekten ableiten läßt. Eine Naosbreite von 24 F hätte in der Breite eine Bindung an die Fluchtlinien der Schmalseiten

(2. und 5. Säule) ergeben. Das wurde jedoch nicht beabsichtigt. Zu Recht wird in der Literatur darauf hingewiesen<sup>30</sup>, daß die Cella 'schwimmend' in das Stylobatrechteck plaziert worden ist. Schon Fiechter<sup>31</sup> hat das Verhältnis von Cellabreite zu den beiden Ptera (Tabelle 8: 8 F 6" :  $25\frac{1}{4}$  F : 8 F 6") als 1:3:1 unterstellt (Abb. 6). So hat der Architekt sich von dieser Einteilung leiten lassen.

TABELLE 9: Einteilung der Euthynterie nach den Quadergrößen in der Breite (N-S)							
	Istmaß			Fuß (32,875 cm)		Sollmaß	Diff. (cm)
Quader							
1	1.72,7 m	} 3.82 m	} 5¼ F	} 11½ F	} 1.72,5 m	3.77,8 m	+ 0,2
2	0.85,4 m						+ 3,3
3	1.23,9 m						+ 0,7
4	1.30,9 m	} 7.87,7 m	} 4 F	} 24 F	} 1.31,5 m	7.89 m	– 0,6
5	1.31,4 m						– 0,1
6-7	2.62,6 m						– 0,4
8	1.31,5 m						0
9	1.31,3 m						– 0,2
10	1.24 m	} 3.82,6 m	} 3¾ F	} 11½ F	} 1.23,2 m	3.78,0 m	+ 0,8
11	0.85,2 m						+ 3,1
12	1.73,4 m						+ 0,9
Euthynterie (in der Bosse)	15.52,3 m		(47 F 47¼ F)		15.44,6 m 15.53,3 m		+ 7,7) – 1

<sup>28</sup> Es verwundert nicht, daß es kleinere Unterschiede (von ca. 1 cm) zwischen beiden Messungen der Breite 15.53,2 m (Gesamtbreite Tab. 8) und 15.52,3 m (Quader Tab. 9) gibt. Das ändert nichts an der Gültigkeit des Analysesystems.

<sup>29</sup> ( $\times 2 = 93$  F!)

<sup>30</sup> Knell 1980, 37.

<sup>31</sup> Furtwängler 1906, 52.

TABELLE 10: Einteilung des Tempels in der Länge											
	Istmaß			Fuß (32,875 cm)	Sollmaß	Diff. (cm)					
Euthynterie	0.15,7 m	} 0.86,9 m	} 4.14,9 m	} 2½ F	} 12½ F	} 4.10,8 m	} + 4,1				
Unterstufe O.	0.35,6 m										
Oberstufe O.	0.35,6 m										
Plinthe	1.12 m	} 3.28 m	}	} 10 F							
O-Pteron i.L.	2.16 m										
Pronaos		4.52,7 m		13¾ F	4.52 m	+ 0,7					
Naos		14.13,2 m		43 F	14.13,6 m	– 0,4					
Rückwand		0.89,7 m		2¾ F	0.90,4 m	– 0,7					
Opisthodomos		3.24,2 m		10 F	3.28,7 m	– 4,5					
W.-Pteron		2.71,4 m	} 3.58,4 m	} 8¼ F	} 11 F	} 3.61,6 m	} – 3,2				
Oberstufe W.	0.35,7 m	} 0.87 m									
Unterstufe W.	0.35,7 m										
Euthynterie	0.15,6 m	2 F10"									
		30.53,1 m		93 F	30.57,3 m	– 4,1					

Diese wurde folgendermaßen ausgeführt:

Stylobatbreite: 42 F  
 Cellabreite:  $\frac{3}{5} \times 42 \text{ F} =$  im Toichobat  $25\frac{1}{4} \text{ F}$  8.27,2 m  
 Pteronbreite  $\frac{1}{5} \times 42 \text{ F} =$  8 F 6<sup>n32</sup> 2.75,1 m

## 6. DIE EINTEILUNG DES TEMPELS IN DER LÄNGE

Durch die Einkürzung des Stylobates, die vom Architekten in der Länge vorgenommen wurde, sind die Verhältnisse zwischen den unterschiedlichen Bauteilen (Tabelle 10) verlorengegangen. Die Verhältnisse sind somit in der Einteilung *vor der Verkürzung* eingeschlossen und nur dann herauszufinden, wenn man das System des Architekten versteht.

Der Oststreifen (Ostpteron und Pronaos) (7 × 4 F =) 28 F

Der mittlere Streifen (Cella im Lichten) (11 × 4 F =) 44 F

Der Weststreifen  
 (Rückwand, Westpteron und Opisthodomos) (6 × 4 F =) 24 F

	uneingekürzt		Einkürzung	ausgeführt	Verhältnis (uneingekürzt)
Ostpteron	14 F	} 28 F	1½ F	12 F 10"	7 (× 4 = 28)
Pronaos	14 F		¼ F	13¾ F	
Cella		44 F	1 F	43 F	11 (× 4 = 44)
Rückwand	3 F	} 24 F	¼ F	2¾ F	6 (× 4 = 24)
Opisthodomos	10 F		–	10 F	
Westpteron	11 F		–	11 F	

<sup>32</sup> 8.4 F = 8 Fuß 6 Daktyloi.

Die Verhältnisse zwischen den drei Bauteilen (Vorderseite, Mittelteil und Hinterseite) wären also 7 : 11 : 6.

Wie wir oben gesehen haben, wäre die Tempellänge nach der Faustregel im Stereobat ohne Verkürzung gewesen:

$$\begin{array}{lcl} \text{Säulenzahl} & \times & \text{Joch} \\ 12 & \times & 8 \text{ F} = 96 \text{ F.} \end{array}$$

Die mittleren 18 Quader (Tabelle 11: Quader 4-21) wurden systematisch um 0.03,1 m oder  $1\frac{1}{2}"$  eingekürzt, also insgesamt um  $(18 \times 1\frac{1}{2}" =) 27"$  oder  $1\frac{3}{4} \text{ F}^{33}$ . An den beiden Außenseiten (Tabelle 11: Quader 1-3; 22-24) wurden die Quader um  $1\frac{1}{4} \text{ F}$  insgesamt zu  $(24 \text{ F} - 1\frac{1}{4} \text{ F} =) 22\frac{3}{4} \text{ F}$  eingekürzt.

Die Gesamtlänge der Quader im Stereobat betrug also:

Nicht eingekürzt	Einkürzung	ausgeführt
18 Quader $\times 4 \text{ F} = 72 \text{ F}$	$1\frac{3}{4} \text{ F}$	$70\frac{1}{4} \text{ F}$
Außenenden: $2 \times 12 \text{ F} = 24 \text{ F}$	$1\frac{1}{4} \text{ F}$	$22\frac{3}{4} \text{ F}$
Stereobatlänge 96 F	3 F	93 F

TABELLE 11: Euthynterie Quader in der Länge (O-W)					
Quader	Istmaß		Fuß (32,875 cm)	Sollmaß (cm)	Diff.
1	0.87,2 m	} 3.72,3 m	2 F10"	0.87,3 m	- 0,1
2	1.71,2 m		$5\frac{1}{4} \text{ F}$	1.72,5 m	- 1,3
3	1.13,9 m		$3\frac{1}{2} \text{ F}$	1.15,0 m	- 1,1
4	1.28,2 m		$3 \text{ F}14\frac{1}{2}"^{34}$	1.28,4 m	- 0,2
5	1.28,5 m	} 3.71,7 m	$3 \text{ F}14\frac{1}{2}"$	1.28,4 m	+ 0,1
6	1.28,3 m		$3 \text{ F}14\frac{1}{2}"$	1.28,4 m	- 0,1
7	1.28,3 m		$3 \text{ F}14\frac{1}{2}"$	1.28,4 m	- 0,1
8	1.28,3 m		$3 \text{ F}14\frac{1}{2}"$	1.28,4 m	- 0,1
9	1.28,5 m		$3 \text{ F}14\frac{1}{2}"$	1.28,4 m	+ 0,1
10	1.28,2 m		$3 \text{ F}14\frac{1}{2}"$	1.28,4 m	- 0,2
11	1.28,5 m		$3 \text{ F}14\frac{1}{2}"$	1.28,4 m	+ 0,1
12	1.28,1 m		$3 \text{ F}14\frac{1}{2}"$	1.28,4 m	- 0,3
13	1.28,6 m		$3 \text{ F}14\frac{1}{2}"$	1.28,4 m	+ 0,2
14	1.28,5 m		$3 \text{ F}14\frac{1}{2}"$	1.28,4 m	+ 0,1
15	1.28,4 m		$3 \text{ F}14\frac{1}{2}"$	1.28,4 m	0
16	1.28,3 m		$3 \text{ F}14\frac{1}{2}"$	1.28,4 m	- 0,1
17	1.28,5 m		$3 \text{ F}14\frac{1}{2}"$	1.28,4 m	- 0,1
18	1.28,4 m		$3 \text{ F}14\frac{1}{2}"$	1.28,4 m	+ 0,1
19	1.28,7 m		$3 \text{ F}14\frac{1}{2}"$	1.28,4 m	+ 0,3
20	1.28,5 m		$3 \text{ F}14\frac{1}{2}"$	1.28,4 m	+ 0,1
21	1.28,2 m		$3 \text{ F}14\frac{1}{2}"$	1.28,4 m	- 0,2
22	1.13,1 m	} 3.71,7 m	$3\frac{1}{2} \text{ F}$	1.15,0 m	- 1,9
23	1.71,5 m		$5\frac{1}{4} \text{ F}$	1.72,5 m	- 1
24	0.87,1 m		2 F10" <sup>35</sup>	0.87,3 m	- 0,2
	30.55 m <sup>36</sup>		93 F	30.60,8 m	- 5,8

<sup>33</sup> Eigentlich 1 F11".

<sup>34</sup> Es fällt auf, daß die mittleren 17 Quader systematisch um ca. 3 cm verkürzt worden sind, so daß zwei Quader der Jochweite der Langseite ( $7\frac{3}{4} \text{ F}$ ) entsprechen.

<sup>35</sup> Quader 1 (2 F 10") + Quader 24 (2 F 10")  $\times 2 = 5 \text{ F } 4"$  oder  $5\frac{1}{4} \text{ F}$ .

<sup>36</sup> Bankel: 30.54,9 m.



TABELLE 12: Aufriß				
	Istmaß	Fuß (32,875 cm)	Sollmaß	Diff. (cm)
Krepis	1.10,9 m	3½ F	1.15,0 m	– 4,1
Säule	5.28,1 m	16 F	5.26 m	+ 2,1
Epistyl	0.84,5 m	2½ F	0.82,1 m	+ 2,4
Fries	0.81,4 m	2½ F	0.82,1 m	– 0,7
Geison	0.60,4 m	2 F	0.65,8 m	– 5,4
Giebel	2.32,7 m	7 F	2.30,1 m	+ 2,7
Aufriß	10.98 m	33½ F	11.01,3 m	– 3,3

## 7. DER AUFRIß (ABB. 4, Tabelle 12)

Der Tempel steht auf einer Krepis von 1.10,9 m Höhe. Es ist nicht mit Sicherheit zu entscheiden, ob dem Architekten hier eine Höhe von 3¼ F (= 1.06,8 m), oder von 3½ F (= 1.15,0 m) vorschwebte. Letzteres Maß erscheint mir jedoch angesichts der anderen Höhenmaße am wahrscheinlichsten. Die Säulenhöhe (16 F) als das Doppelte der Jochweite (8 F) ist deutlich. Die Maße von Epistyl (2½ F), Fries (2½ F) und Geison (2 F) entsprechen zusammen genommen der Giebelhöhe (7 F). Es ist also sehr wahrscheinlich, daß für die Krepis die Hälfte dieses Maßes genommen wurde: 3½ F.

## 8. ENTWURF UND AUSFÜHRUNG (ABB. 5)

Die obige Untersuchung hat ergeben, daß die erste Voraussetzung für eine richtige Analyse eines griechischen Tempels sein soll, daß man die vom Architekten zugrundegelegte Maßeinheit wiederfindet. Diese ist oft in den Quadereinheiten enthalten. Gerade wenn von Fugenkonkordanz die Rede ist, muß man damit rechnen, daß es zwischen Quadermaßen und Tempelabmessungen eine Beziehung der Maßeinheit gibt. Ein mit Quadern errichteter griechischer Tempel ist mit einem Baukastenbau vergleichbar<sup>37</sup>. Man muß ermitteln, wie der Quaderschnitt durchgeführt wurde und wie die Quader gesägt wurden, so daß sie zusammen die Gesamtabmessungen bestimmten. Man muß also auch beim Aphaia-tempel danach streben, gleichsam durch die heute gemessenen metrischen Maße hindurch die vom Architekten beabsichtigten Abmessungen in Fuß zu ermitteln,

damit man sowohl die Bauzeichnung als auch den Vorgang während des Baues – die erfolgten Abweichungen von Soll- und Istmaßen – nachvollziehen kann.

Die meisten klassischen Tempel sind als Standardbauten nach einer Faustregel errichtet: Stereobat- oder Fundamentoberfläche = Säulenzahl × Jochweite.

Bei einem Tempel wie dem der Aphaia, der 6 × 12 Säulen zählte, wäre das Fundament also:

$$\text{Breite} \quad 6 \times 8 \text{ F} = 48 \text{ F}$$

$$\text{Länge} \quad 12 \times 8 \text{ F} = 96 \text{ F.}$$

Die Eckkontraktion hat jedoch diese Maße beeinflusst, wodurch auch die klaren Proportionen zunichte gemacht worden sind.

Bei einem Joch von 8 F wird meistens eine Eckkontraktion von ¾ F durchgeführt. Dann bleibt dem Architekten die Möglichkeit, entweder das Fundament uneingekürzt zu lassen und den Betrag von ¾ F über die Krepisstufen und Euthynterie insgesamt auszugleichen, oder aber von der Euthynterie an die Quader nach den Ecken so einzukürzen, daß die Stereobatfläche um 2 × ¾ F kleiner wird. Diese letzte Lösung hat der Aphaia-Architekt gewählt. So hat er in der Breite 46½ F (ohne die Bossen!) <sup>38</sup> statt (6 × 8 F =) 48 F genommen.

<sup>37</sup> Curtius 1938, 119: "Der ganze Bau ist aus einzelnen Blöcken geschichtet (...) Quader, die als körperliches Individuum wie in soldatischer Ordnung ihren nur in engen Grenzen vertauschbaren Ort einnimmt." Krause 1967, 247: "mit exakter Konkordanz der Stoßfugen". Gruben 1980, 117: "Fugenkonkordanz zum ersten Mal exakt durchgeführt". Knell 1980, 38.

<sup>38</sup> Mit den Bossen 47¼'.

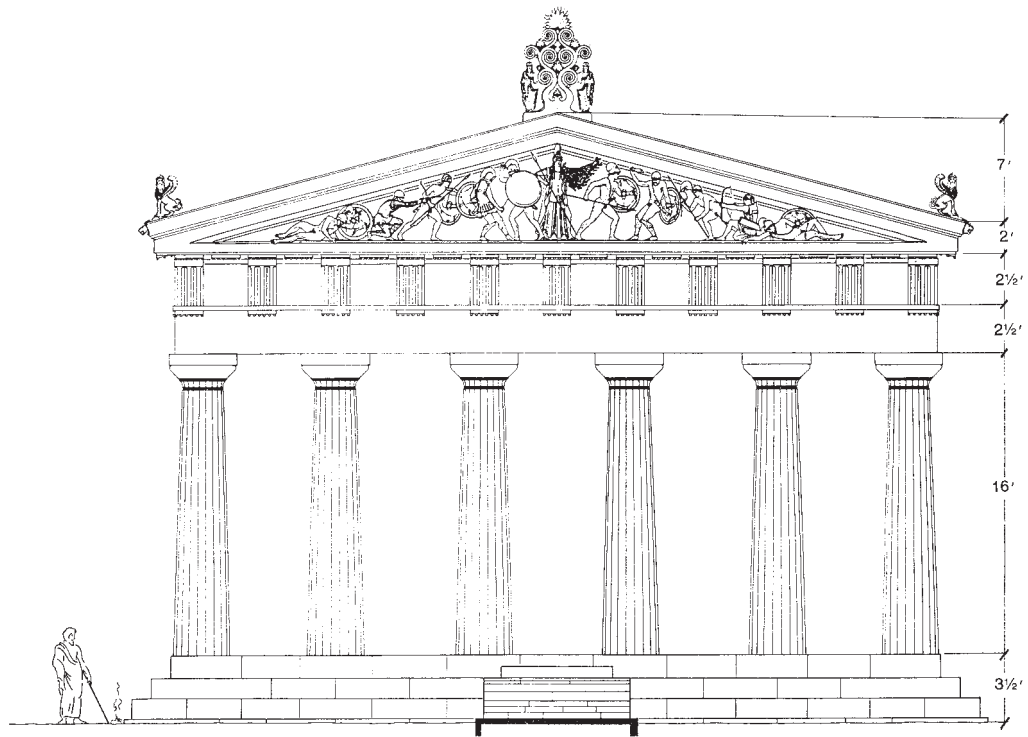


Abb. 4. Der Aufriß nach Ohly mit Abmessungen vom Vf.

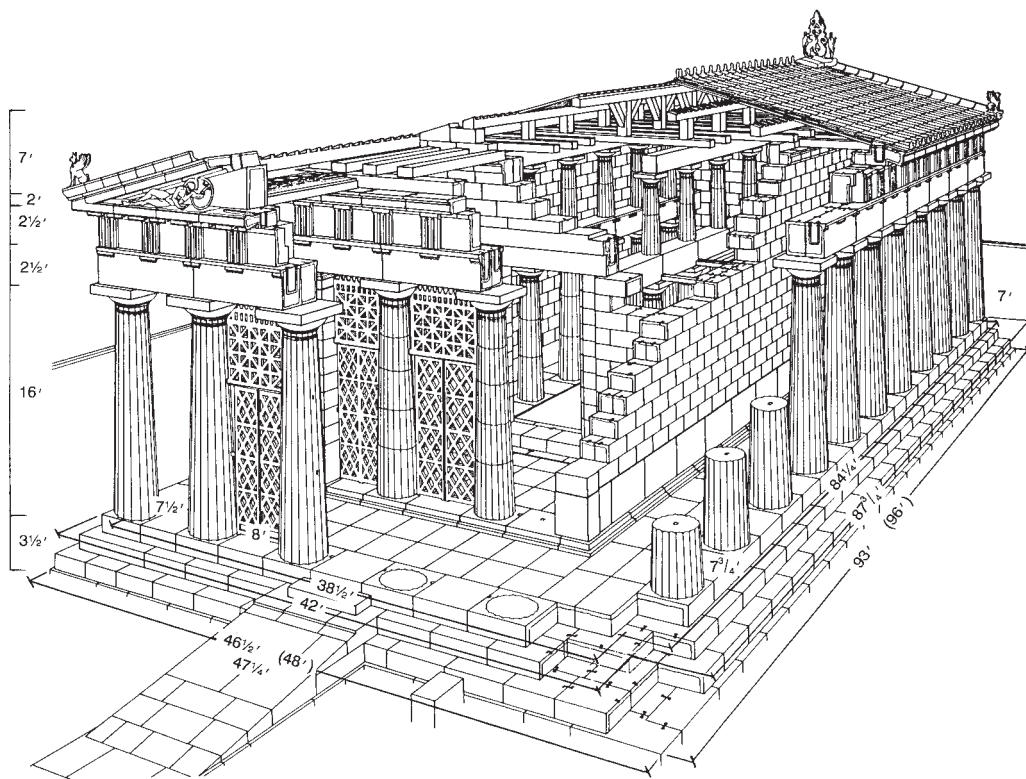


Abb. 5. Rekonstruktion (Neuzeichnung nach Fiechter).

Schematisch ist dies folgendermaßen darzustellen:

#### – Tempelbreite

Theoretisch in der Euthynterie (ohne Eckkontraktion) = Säulenzahl  $\times$  Joch

	$6 \times 8 \text{ F}$	$=$	$48 \text{ F}$
Verkürzt durch Eckkontraktion	$(2 \times \frac{3}{4} \text{ F})$	$=$	$1\frac{1}{2} \text{ F}$
Theoretisch (mit Eckkontraktion) =		$=$	$46\frac{1}{2} \text{ F}$
ausgeführt ohne Bossen		$=$	$46\frac{1}{2} \text{ F}$
ausgeführt mit Bossen		$=$	$47\frac{1}{4} \text{ F}$
(= minus Euthynterie und Stufen = $5\frac{1}{4} \text{ F}$ ) <sup>39</sup>		$=$	$5\frac{1}{4} \text{ F}$
Stylobatbreite		$=$	$42 \text{ F}$
(minus Säulendm. + $2 \times \text{'E'}$ = $3\frac{1}{2} \text{ F}$ ) =			$3\frac{1}{2} \text{ F}$
Achsbreite		$=$	$38\frac{1}{2} \text{ F}$

#### – Tempellänge

In der Länge wurde der Tempel von 96 F auf 93 F (mit den Bossen) eingekürzt. Diese Einkürzung wird, wie wir gesehen haben, auf alle Quader der Langseiten angewandt, so daß die Ausgangsproportion im Stereobat 48:96 oder 1:2 beibehalten blieb. Daß dabei eine – in unseren Augen unlogische – Inkonsistenz auftritt, indem die (unbossierte) Breite sich zur (bossierten) Länge als 1 : 2 verhält, wurde offensichtlich in Kauf genommen.

Theoretisch mißt, wie wir gesehen haben, die Länge des Tempels in der Euthynterie (ohne Eckkontraktion) Säulenzahl  $\times$  Joch

	$12 \times 8 \text{ F}$	$=$	$96 \text{ F}$
Theoretisch (mit Eckkontraktion)		$=$	$93 \text{ F}$
ausgeführt mit Bossen		$=$	$93 \text{ F}$
(minus Euthynterie und Stufen )		$=$	$5\frac{1}{4} \text{ F}$
Stylobatlänge		$=$	$87\frac{3}{4} \text{ F}$
(minus Säulendm. + $2 \times \text{'E'}$ )		$=$	$3\frac{1}{2} \text{ F}$
Achslänge		$=$	$84\frac{1}{4} \text{ F}$

Es war also die Aufgabe des Architekten,  $84\frac{1}{4} \text{ F}$  in Joche zu teilen. Für die Eckjoche wurde je 7 F genommen, so daß für die 9 mittleren blieben:

$84\frac{1}{4} \text{ F} - 14 = 70\frac{1}{4} \text{ F}$ .

Das bedeutete pro Joch:

$70\frac{1}{4} \text{ F} : 9 = 7,8 \text{ F}$  oder

je Joch ausgespart  $3,3 \text{ cm} = 1\frac{1}{2}''$ .

$7,8 \text{ F} \times 0,32,875 = 2,56,4 \text{ m} : 2 =$  je Block  $1,28,2 \text{ m}$ .

Das Normallängsjoch wurde somit auf annähernd  $7\frac{3}{4} \text{ F}$  (ausgeführt 7,8 F) festgelegt.

Für den Entwurf des Tempels folgt hieraus:

Zuerst wurde die Stereobatbreite (einschließlich der Eckkontraktion  $1\frac{1}{2} \text{ F}$ ) festgelegt:

$48 \text{ F} - 1\frac{1}{2} \text{ F} = 46\frac{1}{2} \text{ F}$ .

Darauf wurde die Stereobatlänge in einem 1:2 Verhältnis gesetzt:  $93 \text{ F}$ .

Da die Achsbreite ( $2 \times 7\frac{1}{4} \text{ F} + 3 \times 8 \text{ F} =$ )  $38\frac{1}{2} \text{ F}$  sein sollte und Euthynterie mit der Krepis ( $5\frac{1}{4} \text{ F}$ ), wurde die Stereobatbreite von der Bosse ( $47\frac{1}{4} \text{ F}$ ) aus abgesteckt. Der Stylobat betrug daher ( $47\frac{1}{4} \text{ F} - 5\frac{1}{4} \text{ F} =$ )  $42 \text{ F}$ .

Das Verhältnis 1:2 hatte für die Stereobatlänge zur Folge, daß der Stylobat ( $93 \text{ F} - 5\frac{1}{4} \text{ F} =$ )  $87\frac{3}{4} \text{ F}$  lang wurde. Die beabsichtigte Achslänge war ( $87\frac{3}{4} \text{ F} - 3\frac{1}{2} \text{ F} =$ )  $84\frac{1}{4} \text{ F}$ .

#### Die Cella

Wenn die Cella an die äußere Peristasis gebunden gewesen wäre, d.h. die Breite von drei Normaljochen gehabt hätte, hätten die Abmessungen betragen:

$24 \times 70\frac{1}{4} \text{ F}$ .<sup>40</sup>

Es wurden ausgeführt (Abb. 3):

Breite  $25\frac{1}{4} \text{ F}$ , [entstanden aus Stereobat in der Bosse ( $47\frac{1}{4} \text{ F}$ ) – zweimal den Ptera ( $2 \times 11 \text{ F} = 22 \text{ F}$ )]. Länge  $69\frac{1}{2} \text{ F}$  [Stereobat  $93 \text{ F} - 23\frac{1}{2} \text{ F}$ ].

Die Einkürzung des Tempels in der Stereobatlänge wurde gleichermaßen über die drei Gebäudeteile verteilt, so daß die Proportionen verschleiert werden. Es erschwert also die Analyse des Tempels, wenn man diese Prinzipien nicht versteht.

#### 9. DIE FRÜHEREN ANALYSEN

Im Laufe der Zeit ist der Tempel von Aphaia mehrfach dokumentiert und analysiert worden. Es ist sinnvoll, hier kurz die verschiedenen Lösungen zu besprechen, damit deutlich wird, daß trotz aller Lösungsversuche das Prinzip der Tempelplanung bisher nicht erkannt wurde.

Ganz in der Tradition seiner Zeit, als Vitruvs Handbuch noch Richtschnur für das Studium der

<sup>39</sup> Die Euthynterie springt im Aphaia-Tempel 0,15,7 m (Tabelle 8 und 10) vor, was sicherlich als  $\frac{1}{2} \text{ F}$  (= 0,16,4 m) gemeint war. Offenbar ist hier vom gebräuchlichen Vorsprung von  $\frac{1}{4} \text{ F}$  abgewichen.

Für die Stufenbreite wurde durchschnittlich 0,35,6 m genommen, was pro Stufe fast 3 cm ( $0,35,7 - 0,32,875 = 0,02,825 \text{ m}$ ) abweicht. Vermehrt um 4 Stufen, ist die Abweichung 11,3 cm (= Fast 6''), also mehr als  $\frac{1}{4} \text{ F}$  (= 0,08,2 m), so daß Euthynterie und Stufen insgesamt  $5\frac{1}{4} \text{ F}$  breit waren. Beabsichtigt waren dagegen wohl 5 F.

<sup>40</sup> 9 Joch  $\times$  7,75 F.



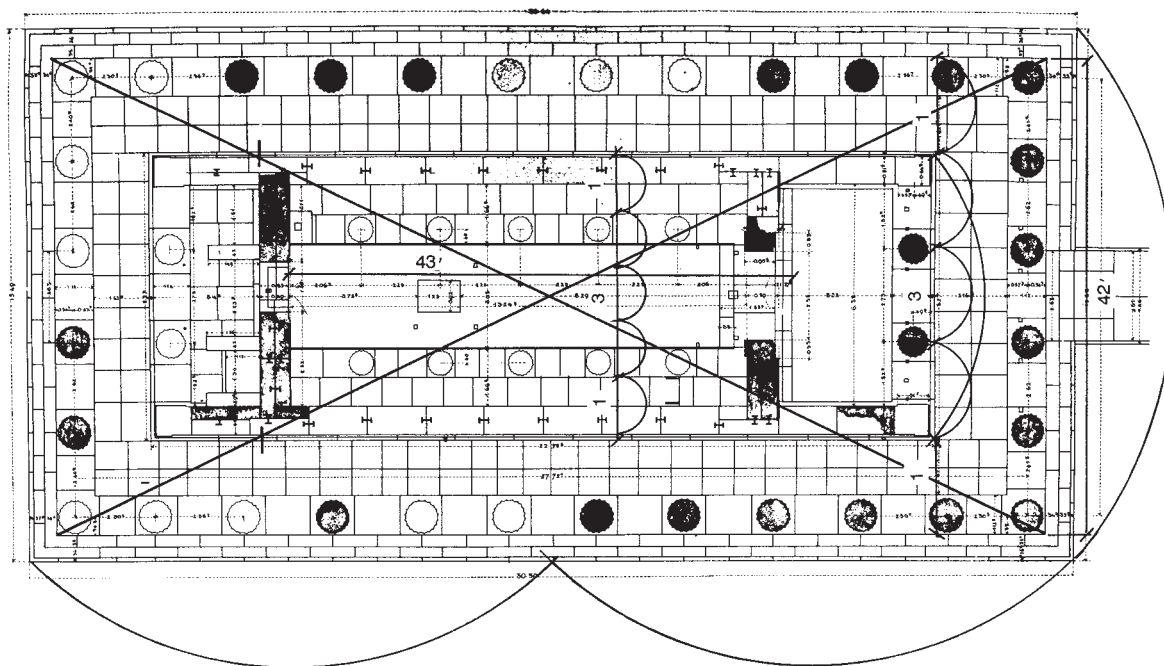


Abb. 6. Der Entwurf nach Fiechter

antiken Architektur war, stellt Cockerell<sup>41</sup> fest, daß der Aphaia-Tempel erheblich vom vitruvianischen Modell und von den Grundrissen abweicht, wie sie in Griechenland und Großgriechenland erscheinen. Mit dem 'Theseion', dem Hephaisteion in Athen, bestehe weiterhin – so Cockerell – eine starke Verwandtschaft<sup>42</sup>. Außerdem hat er auch schon beobachtet, daß das Verhältnis der Säulenzahl (6:12) sich in der Euthynterie widerspiegelt<sup>43</sup>. Dennoch dringt er nicht viel weiter in die Struktur des Tempels vor.

Die zweite Monographie (Garnier) hat eher den Charakter einer Dokumentation der bestehenden Lage, wobei auch eine zeichnerische Rekonstruktion angestrebt wird, ganz in Übereinstimmung der Aufträge der Pensionnaires des Prix de Rome, welchen Garnier 1848 erhalten hatte.

In der dritten Monographie (Fiechter), die dem Aphaia-Tempel gewidmet wurde, macht der Autor einige zutreffende Beobachtungen, die dann in die späteren Handbücher eingehen. In den Gedanken Fiechters spielt die ältere Theorie von A. Thiersch<sup>44</sup> noch eine große Rolle. Nach diesem wäre die Schönheit in der Architektur von Gesetzen bestimmt, welche der Architekturhistoriker zu erforschen hat. Es stelle sich dann heraus, daß sich in jedem Bauwerk eine Grundform wiederholt und daß die einzelnen Teile in Form und Anordnung ähnliche

Figuren bilden, wie es sich in der griechischen Mathematik (unter Berufung u.a. auf Euklid), bestätigen läßt. Auch mit harmonischen Verhältnissen, mit gleichschenkeligen 'ägyptischen' Dreiecken (Viollet-le-Duc) und mit dem Goldenen Schnitt wird gerechnet, eine Betrachtungsweise, die man auch in späteren Studien wiederfindet. "Das Harmonische entsteht erst durch Wiederholung der Hauptfigur des Werkes in seinen Unterabteilungen"<sup>45</sup>. Diese Methode der Analyse wird immer wieder beim grie-

<sup>41</sup> Cockerell 1860, 22: "In the plan we find six columns in the front, and twelve only in the flanks, differing from the rule of Vitruvius; differing also from the usual arrangement both in Greece and in Magna Graecia, in which double the number of the front is exceeded by one, as is the case of the Theseion and the Parthenon."

<sup>42</sup> Cockerell 1860, 22: "The coincidence of general dimensions of this front and that of the Theseion (...) as agreeing very closely in the length of the stylobate, the diameter of the columns, and the entire height. ... The chief (...) difference consists in the length of the columns and the comparable lightness of the entablature in the Theseion."

<sup>43</sup> Cockerell 1860, 23: "The lowest step of the Stylobate represents a parallelogram, the length of which is equal to twice the width. The same proportion (...) was probably a general rule applied to the most sacred temples; 'the square', and the 'four square', being the figures in which classical architecture especially delighted, no less than Jewish and Egyptian architecture."

<sup>44</sup> Thiersch 1903, 64 f.

<sup>45</sup> Thiersch 1903, 65.

chischen Tempel versucht, um zu verdeutlichen, wie die Proportionen in der griechischen Architektur mathematisch bedingt sind. Wenn man jedoch eine einfachere, durch das Handwerk bedingte und in den Inschriften dokumentierte Methode des Entwerfens findet, ist diese vorzuziehen. Obwohl nicht alle Tempel der Griechen auf die gleiche einfache Weise zu erklären sind – Parthenon und Propyläen bilden eine Ausnahme – ist die Analyse der Quader in den meisten Fällen zu verfolgen.

Fiechter<sup>46</sup> hat als wichtigstes Element der Planung festgestellt, daß die Breite sich zur Länge wie 1:2 verhält, was auch schon früher angenommen worden ist (Abb. 6). Wie wir oben gesehen haben, ist die Proportion aus der Faustregel ( $6 \times 8 F = 48 F$  und  $12 \times 8 F = 96 F$ ) entwickelt. Da der Architekt jedoch die Stereobatbreite um den Betrag der Eckkontraktion ( $1\frac{1}{2} F$ ) verringert hat, wurde die Stylobatbreite ( $48 F - 1\frac{1}{2} F =$ )  $46\frac{1}{2} F$ . Durch die Verdoppelung der Breite fand der Architekt die Länge von  $93 F$ . Diese Bauidee konnte – nach Verkürzung der Quaderlänge für die Langseite – ausgeführt werden, indem er die Joche systematisch einkürzte, und zwar auf:

$(8 F - \frac{1}{4} F =) 7\frac{3}{4} F$  für das Normaljoch, und  
 $(8 F - 1 F =) 7 F$  für das Eckjoch.

Dies hat er durch systematische Verkleinerung der Quaderlängen der Langseiten durchgeführt. Das von Dinsmoor<sup>47</sup>, Gruben<sup>48</sup> und Coulton<sup>49</sup> angeführte Verhältnis von ca. 1:2,1 im Stylobat ist vom Stereobat abgeleitet und hat in der Planung, wie ich glaube, keine Bedeutung.

Auch hat Fiechter die Einteilung der Cella in der Breite richtig verstanden (Abb. 6):

“Ein zweimal wiederkehrender Rhythmus ist der von 1:3:1. So verhalten sich untereinander die Breiten der seitlichen Ringhallen zur Breite der Cella, ferner die Breite der Seitenschiffe zur Breite des Mittelschiffes in der Cella”<sup>50</sup>. So hat der Architekt sich von dieser Proportion leiten lassen.

1. Aus dem Quaderschnitt (Tabelle 9) mehr als aus der Einteilung in der Breite (Tabelle 8) läßt sich die Absicht des Architekten ableiten. Eine Naosbreite von  $24 F$  hätte eine in der Breite an die Fluchtlinien der Schmalseiten (2. und 5. Säule) gebundene Cella ergeben. Diese Möglichkeit wurde jedoch nicht gewählt. Die nunmehr allgemein in den Handbüchern akzeptierte Meinung<sup>51</sup> ist, daß die Cella ‘schwimmend’ in das Stylobatrechteck plaziert worden ist.

Diese wurde m.E. folgendermaßen berechnet:

Stylobatbreite:  $42 F$   
 Cellabreite:  $\frac{3}{5} \times 42 F =$  im Toichobat  $25\frac{1}{4} F$   
 Pteronbreite  $\frac{1}{5} \times 42 F = 8 F$ <sup>52</sup>.

2. Den gleichen Rhythmus 1:3:1 hat Fiechter (Abb. 6) auch in der Cellabreite festgestellt, wo er das Verhältnis Seitenschiffe + Cellamauer (1 Teil) zum Mittelschiff einschließlich der Stylobatplattenbreite (3 Teile) wiederzufinden glaubte. Das ist auch nach meiner Überzeugung die Absicht des Architekten gewesen, der aber von der ausgeführten Breite ausgegangen ist:

Cellabreite (im Toichobat)	$25\frac{1}{2} F$
Cellabreite (im aufgehenden Mauerwerk)	$24\frac{1}{2} F$
Wandstärke	$(2 \times 2\frac{1}{2} F =) 5 F$
Seitenschiff (i.L.)	$2\frac{1}{2} F$
Stylobat der Cella	$2\frac{1}{2} F$

Für die lichte Cellabreite blieb somit:

Cellabreite – Mauerstärke – Seitenschiffe – Stylobatplatten = lichte Cellabreite  
 $24\frac{1}{2} F - 2 \times 2\frac{1}{2} F - 5 F - 5 F = 9\frac{1}{2} F$

Die weiteren Beobachtungen aber, die Fiechter zur Planung des Aphaiatempels beisteuert, sind kaum zutreffend (Abb. 6). Die Stylobatbreite ( $42 F$ ) ist nicht ‘ungefähr’ gleich der lichten Cellalänge ( $43 F$ )<sup>53</sup>. Ob “die Tiefe des Pronaos durch den Schnittpunkt der inneren Längslinie der Cellaweite mit der Diagonale des eben genannten Rechtecks der obersten Stufe” (bestimmt scheint) und ebenso “die (Tiefe) des Opisthodom durch den Schnittpunkt derselben

<sup>46</sup> Fiechter, in Furtwängler 1906, 52: “Im Grundriß verhalten sich Breite und Länge des Ganzen sich beinahe wie 1:2.”

<sup>47</sup> Dinsmoor (1950, 344) gibt für die Stylobatverhältnisse 1:2.093 an.

<sup>48</sup> Gruben 1980, 117-118: “Der Grundriß ist mit  $6 \times 12$  Säulen (Stylobat:  $13,77 \times 28,815$  m; etwa 1:2,1) ebenso wie der des älteren Tempels auffällig gedungen. Offenbar liegt hier eine besondere Tradition des saronischen Golfes vor.”; ebenso Krause 1967, 247.

<sup>49</sup> S. unten.

<sup>50</sup> Fiechter, in Furtwängler 1906, 52. So auch Knell 1980, 38: “Auch die Cella scheint im wesentlichen Teilen klar proportioniert zu sein, da im Kultbildraum das Seitenschiff annähernd genau  $\frac{1}{3}$  des Mittelschiffes ausmacht und sich die Cellabreite insgesamt zu den Flankenptera ebenso verhält wie das Mittelschiff zu den Seitenschiffen”. Ebenso die neueren Handbücher.

<sup>51</sup> Gruben 1980, 118: “Auch ist die Cella noch nicht in kanonischer Weise in die Peristasis eingebunden: die Außenflucht der Wand trifft um etwa 20 cm außerhalb der Achse auf die zweite und fünfte Frontsäule”; (so schon in der ersten Auflage 1966; Krause 1967, 247). Knell 1980, 37: “Die Cella mit dem gegenüber dem Opisthodom größeren Pronaon und einem dreischiffigen Kultbildraum liegt ‘schwimmend’ im Ringhallenrechteck, geht keine Fluchtbildung (sic! oder Fluchtbindung?) mit dem Säulenkranz ein; ein deutliches Erbe archaischer Architektur.”

<sup>52</sup>  $8,4' = 8$  Fuß 6 Daktylen.

<sup>53</sup> Fiechter, in Furtwängler 1906, 52: “Die Außenlinie des Säulenbaues, das ist die Stufenoberkante (Stylobat? dW), umschreibt eine Figur ähnlich der des Cellainneren”.

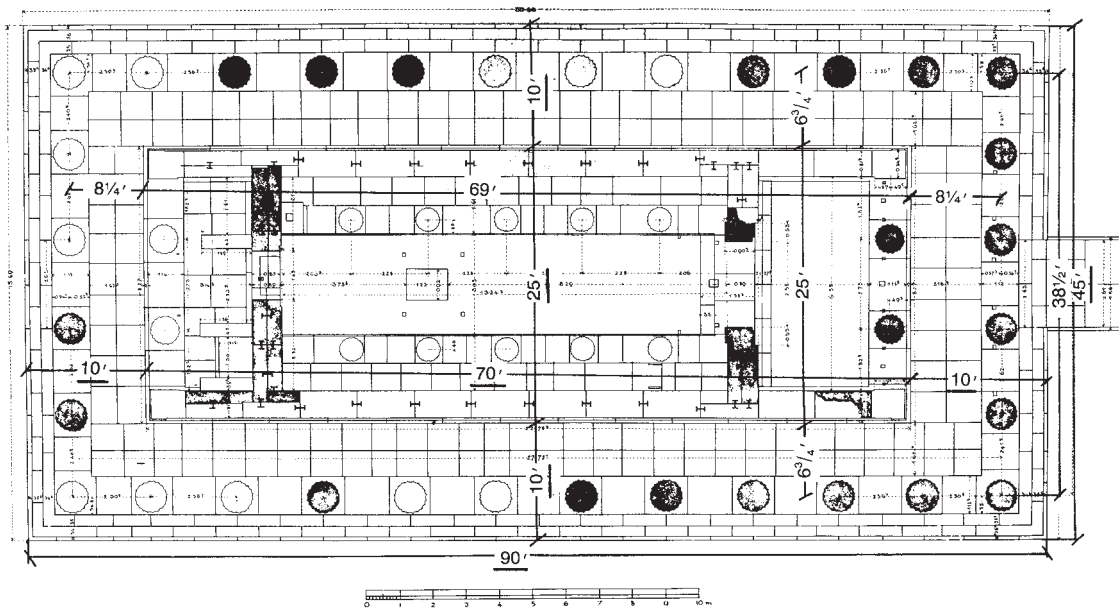
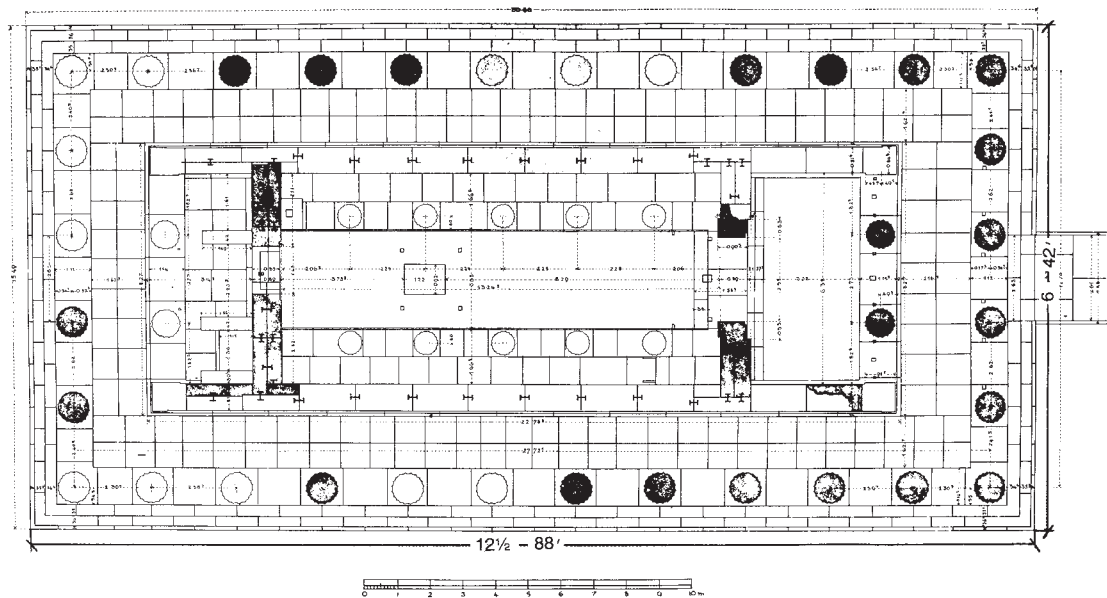


Abb. 7. Der Entwurf nach Riemann (Die Fußmaße der Ausgangsplanung sind unterstrichen)



Coulton

Formel Stylobatbreite (Interkolumniumzahl + k)  
(5 + 1/4)

Stylobatlänge (Interkolumniumzahl + k)  
11

Stylobatverhältnis  
ist in Fuß aber

x Joch

x 2.61,8 m = 13.74,45 m = 42 DF

x Joch

x 2.48,5 m = 27.33,5 m = 88 DF

1 : 2,1 = 6 : 12,5

42' : 87 1/2' oder 42 1/4' : 88'.

Abb. 8. Der Entwurf nach Coulton.



Diagonale mit der äußeren Wandflucht der Cella“ beruht auf Zufall; man sollte solche geometrische Linien nicht auf stark verkleinerten Grundrissen ausführen, sondern mit dem Theodolit an Ort und Stelle nachprüfen.

Riemann<sup>54</sup> (Abb. 7) vertritt in seiner Dissertation die Grundthese, daß der Architekt zuerst die Rechtecke der äußeren Peristasis und der Cella in klaren Ausgangsproportionen festlegte, die dann in einer zweiten Phase weiter differenziert wurden. Für den Aphaia-tempel nahm er eine – etwas zu große – Maßeinheit von 33 cm an und ging für die Planung des Tempels von der folgenden Formel aus:

Entwurfsphase:

Tempel-, d.i. Stereobatbreite:  $2 \times 10 F + 25 F = 45 F$ ;  
Tempel-, d.i. Stereobatlänge:  $2 \times 10 F + 70 F = 90 F$ .

Darin ist zwar das von ihm angenommene Verhältnis der Ringhalle (1:2)<sup>55</sup> eingeschlossen, nicht aber das der Cella (25:70), was nicht mit der von ihm postulierten Ausgangsproportion (1:3; wäre 25:75) übereinstimmt.

Riemann kommt in einigen Fällen zu den m.E. richtigen antiken Abmessungen, weil sein Fußmaß (33 cm) nicht sehr von dem gebrauchten Fuß zu 32,8 cm abweicht. Dennoch hat er den antiken Entwurf nicht entschlüsselt, wie aus seinen Formeln für die sukzessive Ausführungsform hervorgeht<sup>56</sup>. Seine Formeln für die sukzessive Ausführungsform wären:

Achsbreite  $2 \times 6\frac{3}{4} (13\frac{1}{2}) + 25 = 38\frac{1}{2} F$ <sup>57</sup>  
Achslänge  $8\frac{1}{4} + 69 + 6\frac{3}{4} = 84 F$ <sup>58</sup>.

Die von Riemann angenommene Cellabreite (im Lichten) ist im Grunde wohl richtig, obwohl seine Analyse auch hier auf falschen Prämissen basiert:

Cellabreite:

Entwurf:  $2 \times 5 (10) + 10 F = 20 F$

Ausführung:  $2 \times 5 (10) + 9\frac{1}{4} F = 19\frac{1}{4} F$

Coulton<sup>59</sup> (Abb. 8) versucht an das ‘Design’ des dorischen Tempels näher heranzukommen, indem er einige von ihm entwickelten Formeln anwendet. Die Stylobatabmessungen sind für ihn durchweg Ausgangspunkt, wobei er sich vor allem von Vitruv leiten läßt, der ja nicht von der Proportion des Stylobats ausgeht, sondern lediglich die Stylobatbreite von verschiedenen Tempeltypen vorschreibt. Dabei fällt auf, daß Coulton nur sporadisch mit den antiken Fußmaßen rechnet und daß die meisten ausgeführten Abmessungen (Istmaße), die sich durch seine Formeln ergeben, um einige Zentimeter von den theoretischen Sollmaßen abweichen.

Für den Aphaia-tempel nimmt er das Verhältnis des Stylobats von Dinsmoor (1:2,1) zum Ausgangspunkt und hat dann zwei Formeln, und zwar:

- Stylobat, Br. : L. = Säulenzahl Br : Säulenzahl L +  $\frac{1}{2} = 6 : (12 + \frac{1}{2}) = 1 : 2,1$ , und:
- Stylobat, Br. = (Interkolumniumzahl + k)  $\times$  Joch =  $5\frac{1}{4} \times 2.618 \text{ m} = 13.7445 \text{ m}$ ; Istmaß 13.77 m;
- Stylobat, L. = Interkolumniumzahl  $\times$  Joch =  $11 \times 2.485 \text{ m} = 27.335 \text{ m}$ ; Istmaß 27.464 m.

Dann konvertiert er im Fall des Aphaia-tempels die Abmessungen in Fuß von 0.327751 m, was ihn auf die Abmessungen des Stylobats ( $42 F \times 88^{60} F$ ) bringt. Wenn man diese Methode Coultons mit der oben beschriebenen Analyse vergleicht, wird m.E. deutlich, daß die von ihm vorgeschlagene Arbeitsweise nicht die des antiken Architekten sein kann.

## 10. SCHLUß

Aus dem Vorgehenden ist deutlich geworden, daß das erste Anliegen des Bauforschers die Ermittlung des vom Architekten zugrundegelegte Fußmaßes sein soll. Nur das richtige Grundmaß macht den Vorgang während des Baues und die dahinter stehenden Prinzipien deutlich. Beim Aphaia-tempel war man sich fast allgemein darüber einig, daß es dieser dorische Fuß ist, dem man Werte zwischen 32,6 und 33 cm<sup>61</sup> gegeben hat. Dadurch hat man – es ist vor allem Ernst Fiechter gewesen, der diesen Weg gezeigt hat – schon mehrere Abmessungen aus der Vermessung in Metern richtig in diesen Fuß übersetzt und einige Prinzipien der Planung richtig verstanden. Es ist zweifellos als einen Rückschritt zu bezeichnen, wenn Bankel aufgrund seiner ‘Metrologischen Skalen’ den Vorschlag einer neuen Maßeinheit gemacht hat.

Die Untersuchung, wie der antike Architekt vorgegangen ist, kann erst anfangen, nachdem das Fußmaß richtig bestimmt ist. Als Bauhandwerker hatte er die Quader zu bestellen, und diese wurden

<sup>54</sup> Riemann 1935, 118.

<sup>55</sup> Nicht aber in 45:90 Fuß ausgedrückt.

<sup>56</sup> So auch z.B. Coulton 1974, 75.

<sup>57</sup> Die Formel stimmt nicht, denn die Cellabreite ist  $25\frac{1}{4} F$ , die als  $\frac{3}{5}$  der Stylobatbreite zu verstehen sind (s. oben).

<sup>58</sup>  $84\frac{1}{4} F$ .

<sup>59</sup> Coulton 1974, 74.

<sup>60</sup> Ist jedoch  $87\frac{3}{4} F$ .

<sup>61</sup> Um so mehr befremdet die Methode Bankels (Bankel 1993), der diese Maßeinheit einfach verwirft.

so gesagt, daß sie die Abmessungen des Fundaments richtig bestimmten. Auch die Einschachtelung des inneren Rechtecks der Cella in das des Stereobates war ein Anliegen, das schon im ersten Stadium bedacht wurde.

Es genügt nicht, nur einen einzelnen Tempel zu untersuchen, da man dann schnell auf esoterische Weise eine Bestimmung der Proportionen findet. Man hat vielmehr andere Tempel heranzuziehen und durch Vergleich die konstanten Faktoren zu isolieren, damit deutlich wird, wie der griechische Tempel wirklich geplant worden ist. Es besteht dabei die Gefahr, daß man sich durch spätere Traditionen, wie z.B. des Vitruv und seiner Nachfolger, leiten läßt, ohne die Quellen, wie es die Bauinschriften sind, genügend zu würdigen.

#### LITERATUR

- H. Bankel 1983, Zum Fußmaß attischer Bauten des 5. Jahrhunderts v. Chr., *AM* 98 (1983) 65-99.  
H. Bankel 1993, *Der spätarchaische Tempel der Aphaia auf Aegina* (Denkmäler antiker Architektur Band 19), München 1993.  
Cat. Paris-Rome-Athènes 1982, M.-Chr. Hellmann-Ph. Fraisse, *Paris-Rome-Athènes – Le voyage en Grèce des architectes français aux XIX<sup>e</sup> et XX<sup>e</sup> siècles*, Paris 1982.  
C.R. Cockerell 1860, *The Temples of Jupiter Panhellenius at Aegina and of Apollo Epicurius at Bassae near Phigalia in Arcadia*, London 1860.  
J.J. Coulton 1974, Towards Understanding Doric Design: The Stylobate and Intercolumniations, *ABSA* 69 (1974) 61-86.

- L. Curtius 1939, *Die antike Kunst* II,1, Berlin 1938.  
W.B. Dinsmoor 1950, *The Architecture of Ancient Greece*<sup>3</sup>, London 1950.  
A. Furtwängler 1906, *Aegina. Das Heiligtum der Aphaia*, München 1906.  
Ch. Garnier 1854, L'Île d'Égine, *Revue Archéologique* 1854, 193-204; 344-361; 423-440.  
Ch. Garnier 1884, *Restaurations des Monuments antiques: VI Le temple de Jupiter Panhellénien à Égine*, Paris 1884.  
G. Gruben 1980, *Die Tempel der Griechen*<sup>3</sup>, München 1980.  
G. Gruben 1986, *Die Tempel der Griechen*<sup>4</sup>, München 1986.  
Chr. Grunwald 1977, *Cat. Thorvaldsen - Ausstellung Köln 1977*, Köln 1977, 243-259.  
H. Knell 1980, *Grundzüge der griechischen Architektur*, Darmstadt 1980.  
Cl. Krause 1967, *Griechische Baukunst*, in: K. Schefold (Hg.), *Die Griechen und ihre Nachbarn, Propyläen Kunstgeschichte I*, Berlin 1967, 230-277.  
D. Ohly 1972, Antikenergänzung und Ent-Restaurierung, *Kunstchronik* 25 (1972) 85-112.  
E.L. Schwandner 1985, *Der ältere Porostempel der Aphaia auf Aegina*, (Denkmäler antiker Architektur 16), Berlin 1985.  
A. Thiersch 1903, *Handbuch der Architektur IV, Entwerfen, Anlage und Einrichtung der Gebäude, 1. Halbband: Architektonische Komposition*, 3. Aufl., Darmstadt-Stuttgart 1903.  
B. Wesenberg 1984, Der Fuß des Kallikrates, *AA* 1984, 547-553.  
B. Wesenberg 1995, *Die Metrologie der griechischen Architekten*, in: D. Ahrens-R.C.A. Rottländer, *Ordo et Mensura* III, St. Katharinen 1995, 199-222.

#### PERISTASTE-GRUNDRIß (Metermaße nach Bankel 118, Abb. 66)

	Istmaß	Fuß (32,875 cm)	Sollmaß	Diff. (cm)
FRONT				
Joch	2.63,0 m	8 F	2.63,0 m	–
Eckjoch	2.39,7 m	7 <sup>1</sup> / <sub>4</sub> F	2.38,3 m	+ 1,4
Unterer Dm.	1.01,0 m	3 F	0.98,6 m	+ 2,4
‘E’	0.55,1 m	1 <sup>3</sup> / <sub>4</sub> F	0.57,5 m	– 2,4
LANGSEITE				
Joch	2.55,6 m	7 <sup>3</sup> / <sub>4</sub> F	2.54,7 m	+ 0,9
Eckjoch	2.33,4 m	7 F	2.30,1 m	+ 3,3
Unterer Dm.	0.99,5 m	3 F	0.98,6 m	+1,1
‘E’	0.54,3 m	1 <sup>3</sup> / <sub>4</sub> F	0.57,5 m	– 3,2

CELLA-AUßEN (Metermaße nach Bankel 123, Abb. 70)

QUERMAßE

Joch	2.72,8 m	8¼ F	2.71,2 m	+ 1,6
Eckjoch	2.77,2 m	8½ F	2.79,4 m	- 2,4
Unterer Dm.	0.92,6 m	2¾ F	0.90,4 m	+ 2,2
'E'	0.49,5 m	½ F	0.49,3 m	+ 0,2
Cellabreite	8.27,2 m	25¼ F	8.30,0 m	- 2,8
Seitenpferonbr.	2.75,8 m	8¼ F	2.71,2 m	+ 4,6
		8½ F	2.79,4 m	- 3,6

LÄNGSMAßE

Toichobat-Blocklänge	1.17,1 m	3½ F	1.15,0 m	+ 2,1
Eckblocklänge	1.98,6 m	6 F	1.97,2 m	+ 1,4
Stufenbreite	0.09,2 m	¼ F	0.08,2 m	+ 1
Westpferonbreite	2.71,4 m	8¼ F	2.71,2 m	+ 0,2
Ostpferonbreite	3.28,0 m	10 F	3.28,8 m	- 0,8
Lisenenbreite unten	0.92,3 m	2¾ F	0.90,4 m	+ 1,9
Lisenenbreite oben	0.51,4 m	1½ F	0.49,1 m	- 2,3

CELLA-INNEN (Metermaße nach Bankel 126, Abb. 72)

HAUPTMAßE

Cella, lichte Länge	13.27,1 m	40½ F	13.31,4 m	- 4,1
Cella, lichte Breite	6.42,0 m	19½ F	6.41,0 m	+ 1
Mittelschiffbreite	3.85,4 m	11¾ F	3.86,2 m	- 0,8
Seitenschiffbreite	1.28,3 m	3 F 14½"	1.28,3 m	-
Querwandstärke	0.85,5 m	2½ F	0.82,1 m	+ 3,4

INNERE SÄULENORDNUNG

Joch	2.28,7 m	7 F	2.30,1 m	- 1,4
Endjoch	2.07,6 m	6¼ F	2.05,4 m	+ 2,2
Unterer Dm.	0.71,2 m	2¼ F	0.73,0 m	- 2,7
Stylobatblockl. a	0.85,6 m	2½ F	0.82,1 m	+ 3,5
Stylobatblockl. b	0.71,3 m	2¼ F	0.73,9 m	- 2,6

KREPIS (Metermaße nach Bankel 128, Abb. 74)

QUADERLÄNGEN

Normalquader, Langseite	1.28,3 m	3 F 14½"	1.28,3 m	-
Krepisquader a	0.85,1 m	2½ F	0.82,1 m	+ 3
Krepisquader b	0.99,9 m	3 F	0.98,6 m	+ 1,3
Krepisquader c	1.28,0 m	3 F 14½"	1.28,3 m	- 0,3
Krepisquader d	1.71,2 m	5¼ F	1.72,5 m	- 1,3
Krepisquader e	2.00,1 m	6 F	1.97,2 m	+ 2,9
Euthynterie Stufenbreite	0.14,1 m	½ F	0.16,4 m	- 2,3
Normalstufenbreite	0.35,7 m	1 F	0.32,8 m	+ 2,9

RESTQUADERLÄNGEN

Restquader A1	1.24,6 m	3¾ F	1.23,2 m	+ 2,4
Restquader A2	1.04,7 m	3¼ F	1.06,8 m	- 2,1
Restquader A3	2.16,3 m	6½ F	2.13,6 m	+ 2,7
Restquader A4	1.14,4 m	3½ F	1.15,0 m	- 0,6
Restquader A5	1.20,5 m	3²/₃ F	1.20,3 m	- 0,2
Restquader A6	1.13,9 m	3½ F	1.15,0 m	- 1,1



## HÖHENMAßE (Metermaße nach Bankel 132, Abb. 77)

	Istmaß	Fuß (32,875 cm)	Sollmaß	Diff. (cm)
PERISTASE				
Krepis	1.11,5 m	3½ F	1.15,0 m	– 3,5
Säule	5.28,1 m	16 F	5.26,0 m	+ 2,1
Kapitell	0.58,3 m	1¾ F	0.57,3 m	+ 1
Architrav	0.84,5 m	2½ F	0.82,1 m	+ 2,4
Triglyphon	0.84,5 m	2½ F	0.82,1 m	+ 0,3
Kyma	0.34,7 m	1 F	0.32,8 m	+ 1,9
Taufgeison	0.39,1 m	1¼ F	0.41,0 m	– 1,9
Wandorthostaten	0.99,6 m	3 F	0.98,6 m	+ 1
Quader	0.40,7 m	1¼ F	0.41,0 m	– 0,3
Säule	5.06,4 m	15½ F	5.09,5 m	– 3,1
Kapitell	0.54,6 m	1¾ F	0.57,5 m	– 2,9
Architrav	0.81,9 m	2½ F	0.82,1 m	– 0,2
Triglyphon	0.84,5 m	2½ F	0.82,1 m	+ 2,4
Kymation, außen	0.34,6 m	1 F	0.32,8 m	+ 1,8
Kymation, innen	0.60,5 m	1¾ F	0.57,5 m	+ 3

## Säulen-Quermaße (Metermaße nach Bankel 134, Abb. 78)

## FRONT

Unterer Dm.	1.01,0 m	3 F	0.98,6 m	+ 2,4
Oberer Dm.	0.74,3 m	2¼ F	0.73,9 m	+ 0,4
Abakusbreite	1.23,9 m	3¾ F	1.23,2 m	+ 0,7
Architravstärke	0.99,1 m	3 F	0.98,6 m	+ 0,5

## LANGSEITE

Unterer Dm.	0.99,5 m	3 F	0.98,6 m	+ 0,9
Oberer Dm.	0.72,6 m	2¼ F	0.73,9 m	+ 1,3
Abakusbreite	1.23,6 m	3¾ F	1.23,2 m	+ 0,4
Unterer Dm.	0.92,6 m	2¾ F	0.90,4 m	+ 2,2
Oberer Dm.	0.68,9 m	2 F	0.65,7 m	+ 3,2
Abakusbreite	1.14,9 m	3½ F	1.23,2 m	– 0,1
Architravstärke	0.92,6 m	2¾ F	0.90,4 m	+ 2,2

## Cella-Innere Säulen (Metermaße nach Bankel 135, Abb. 79)

## Untere Reihe

Unterer Dm.	0.71,2 m	2¼ F	0.73,9 m	– 2,7
Oberer Dm.	0.53,7 m	1¾ F	0.57,7 m	– 3,8
Abakusbreite	0.88,6 m	2¾ F	0.90,4 m	– 1,8
Kapitellhöhe	0.43 m	1¼ F	0.41 m	+ 2
Säulenhöhe	3.69,7 m	11¼ F	3.69,8 m	– 0,1
Architravstärke	0.70,8 m	2¼ F	0.73,9 m	– 3,1
Architravhöhe	0.66,8 m	2 F	0.65,7 m	+ 1,1

## Obere Reihe

Unterer Dm.	0.53,2 m	1½ F	0.49,3 m	+ 3,9
Oberer Dm.	0.39,8 m	1¼ F	0.41 m	– 1,2
Abakusbreite	0.71 m	2¼ F	0.73,9 m	– 2,9
Kapitellhöhe	0.32,4 m	1 F	0.32,8 m	– 0,4
Säulenhöhe	2.38,0 m	7¼ F	2.38,3 m	– 0,3

## PERISTASE-FRONT

Triglyphenbreite	0.50,3 m	1½ F	0.49,3 m	+ 1
Metopenbreite	0.81,1 m	2½ F	0.82,1 m	- 1
Ecktriglyphenbreite	0.52,4 m	1½ F	0.49,3 m	+ 3,1
Eckmetopenbreite	0.80,4 m	2½ F	0.82,1 m	- 1,7
Eckarchitravlänge	2.89,2 m	8¾ F	2.87,6 m	+ 1,6

## PERISTASE-LANGSEITE

Triglyphenbreite	0.48,7 m	1½ F	0.49,3 m	- 0,6
Metopenbreite	0.79,1 m	2½ F	0.82,1 m	- 3
Ecktriglyphenbreite	0.52,8 m	1½ F	0.49,3 m	+ 3,5
Eckmetopenbreite	0.77,5 m	2½ F	0.82,1 m	- 4,6
Eckarchitravlänge	2.83,1 m	8½ F	2.79,4 m	+ 3,6

## KORREKTURZUSATZ

Erst nach Abschluß des Manuskriptes erhielt ich Kenntnis des Aufsatzes von K. de Zwarte (Der Vorentwurf und die Dimensionierung des spätarchaischen Aphaiatempels auf Aegina, Talanta 26-27, 1994-1995, 141-149), der feststellt, daß "die Frage weiterhin umstritten bleiben (wird), so lange keine Einigkeit über die Beurteilung der griechischen Fußmaße besteht". Er versucht "nochmals einen Konsens für normierte antike Fußmaße" durchzusetzen. Nachdem er die von Bankel angenommene Maßeinheit (1 F = 29,4233 cm) ausgeschlossen hat, nimmt de Zwarte das "feste ionische Fußmaß von 29,86 cm" an. Der griechische Baumeister habe "damals wie heute nur feste Längenmaße verwendet".

Gerade dies ist der axiomatische Ausgangspunkt, der dazu geführt hat, daß man den klassischen griechischen Tempel bisher nicht verstanden hat. Bevor man ein solches Axiom aufstellt, sollte man sich fragen, ob eine solche Festlegung richtig ist und ob nicht vielmehr – wie im Mittelalter und in der Neuzeit bis zur Einführung des Meters – auch bei den Griechen viele Fußmaße nebeneinander bestanden haben, so daß jedes Bauwerk sein eigenes Grundmaß gehabt hat. Dieses ist aus den Abmessungen der Quader, die nach Aussage der Bauinschriften in runde Fuß- und Palmmaße geschnitten wurden, zu berechnen. Die Quader oder Plinthen des Stylobates bestimmen das Normaljoch, das im Falle des Aphaiatempels, (wie oben in Tabelle 1 gezeigt) an der Frontseite auf 8 F festgelegt wurde. Die anderen Jochweiten (Eckjoch Frontseite 7¼ F, Normaljoch Seiten 7¾ F, Eckjoch Seiten 7 F) wurden so vom Architekten festgelegt, daß in der Ausgangspro-

portion 1:2 der Euthynterie die Tempelabmessungen in praktikablen Fußmaßen auszudrücken waren.

Wenn man nun, wie de Zwarte, von einer beschränkten Anzahl von Fußmaßen in der griechischen Welt ausgeht, dann vergleicht man in verschiedenen Maßeinheiten gebaute Tempel in absoluten (Fuß)-Maßen miteinander. Ein Tempel z.B. mit einer Stylobatlänge von 30 m und ein anderer von 33 m können beide 100 F lang sein (der eine mit einem Fußmaß von 30 cm, der andere mit einem solchen von 33 cm), während man bei 'normierten' Fußmaßen bei dem einen 100 F und bei dem anderen 110 F zählt.

## TABELLE DE ZWARTE

De Zwarte (s. Tabelle) kommt vom Vorentwurf (Sp. 1) über eine Abänderung des Vorentwurfes (Sp. 2) zu den ausgeführten Abmessungen ('Werkplan des Tempels'), wobei auffällt, wie dicht die gemessenen Maße ('Istmaße') an die idealen 'Sollmaße' herankommen. Dies kann kaum verwundern: Man kann jedes Metermaß in jedes beliebige Fußmaß konvertieren, und je kleiner man die Rechen- einheit macht (De Zwarte 1/32 F oder 0,9 cm), desto kleiner sind die Differenzen zwischen Ist- und Sollmaßen. Dies ist jedoch keine Bestätigung dafür, daß das angenommene Grundmaß korrekt ist, sondern es besagt nur, daß man genau konvertiert hat. Indem er dem Dutzend schon vorgeschlagener Maßeinheiten (Bankel 1993, 118, Abb. 66) eine neue hinzufügt, überzeugt de Zwarte kaum, wenn er behauptet, damit den (Vor)Entwurf des antiken Architekten wiedergefunden zu haben.

	Vorentwurf Fuß	Abänderung Fuß	Werkplan des Tempels Fuß	Ideal (m)	gemessen
Stufenausladung <sup>6</sup>	2 7/8		2 7/8	0.85,8	0.85,5
<i>Fronten</i>					
Euthynteriebreite <sup>7</sup>	52	– 1/16	51 15/16	15.50,9	15.48,4
Stylobatbreite <sup>8</sup>	46 1/4	– 1/16	46 3/16	13.79,2	13.78,8
Ecksäulenabstand (E)	1 3/4	+ 3/32	1 27/32	0.55,1	0.55,1
Eckjoch (EJ)	8 1/4	– 7/32	8 1/32	2.39,8	2.39,7
Joch (J)	8 3/4	+ 1/16	8 13/16	2.63,1	2.63,0
Seitenpteronbreite	9 1/4		9 1/4	2.76,2	2.75,8
Cellabreite	27 3/4	– 1/16	27 11/16	8.26,7	8.27,2
Cella, Eckabstand	9 1/4		9 1/4	2.76,2	2.76,6
Cella, Joch in antis <sup>9</sup>	9 1/4	– 1/16	9 3/16	2.74,3	2.72,8
Cella, Eckabstand	9 1/4		9 1/4	2.76,2	2.77,8
Peristasensäulen, uD <sup>10</sup>	3 1/4	+ 1/8	3 3/8	1.00,8	1.01,0
<i>Langseiten</i>					
Euthynterielänge <sup>11</sup>	104	– 1 7/8	102 1/8	30.49,5	30.49,8
Stylobatlänge <sup>12</sup>	98 1/4	– 1 7/8	96 3/8	28.77,8	28.79,0
Ecksäulenabstand (E)	1 3/4	+ 3/32	1 27/32	0.55,1	0.55,1
Eckjoch (EJ)	8	– 3/16	7 13/16	2.33,3	2.33,4
Joch (J)	8 3/4	– 3/16	8 9/16	2.55,7	2.55,6
Westpteronbreite	9 1/4	– 3/16	9 1/16	2.70,6	2.71,4
Cellalänge	79 3/4	– 3 7/16	76 5/16	22.78,7	22.79,7
Ostpteronbreite	9 1/4	+ 1 3/4	11	3.28,5	3.28,0
Opisthodomtiefe einschl.					
Rückwand Naos <sup>13</sup>	16 3/4	– 2 7/8	13 7/8	4.14,3	4.13,6
Lichte Naoslänge	46 1/4	– 1 15/16	44 5/16	13.23,2	13.23,5
Pronaostiefe einschl.					
Türwand Naos	16 3/4	+ 1 3/8	18 1/8	5.41,2	5.42,2
Peristasensäulen, uD <sup>14</sup>	3 1/4	+ 1/16	3 5/16	0.98,9	0.99,5

*Tabelle Die Dimensionierung des Grundrisses (nach De Zwarte)*



# The Sanctuary of Isis on the Campus Martius in Rome

## A Review Article

M.J. Versluys

Lembke, K. 1994, *Das Iseum Campense in Rom. Studie über den Isiskult unter Domitian* (Archäologie und Geschichte, Band 3) Verlag Archäologie und Geschichte-Heidelberg, 1994, ISBN 3-9801863-2-6, 271 pages of text, 31 figures, 48 pages of illustrations.

### INTRODUCTION

The Isis sanctuary on the *Campus Martius*, usually referred to as *Iseum Campense*, was the most important temple of the goddess in Rome throughout the entire imperial period. The existence of the sanctuary is recorded in various literary sources, the most famous of which is Juvenal's 6th satire which ridicules the followers of the Isis cult<sup>1</sup>. Nothing of the architecture of the temple has survived today although from the Middle Ages onwards numerous objects were found on the site of the ancient sanctuary. The sculptural decorations of the temple thus were dispersed all over the city of Rome and to many museums. For instance the obelisk which adorns the Piazza Navona since the 17th century, together with Bernini's fountain, originally belonged to the sanctuary and so do the lions flanking Michelangelo's stairway leading to the Capitol. Also the well-known columns in the Capitoline Museum, depicting a detailed representation of an Isis procession, once belonged to the decoration of the sanctuary, as did the colossal statues of Nile, Tiber and Okeanos now in the Vatican Museum, the Louvre, and the Archaeological Museum of Naples. Although there remain no traces, in situ, of the architecture of the sanctuary, we can still visualize the ground-plan of the temple with the help of the *Forma Urbis Romae*. On this marble city plan, dating from the reign of Septimius Severus, a damaged inscription has been preserved which is usually restored as 'ISEUM ET SERAPEUM'. There are also illustrations on reliefs and coins which depict the temple and can provide information for a reconstruction. At the end of the last century Lanciani was the first to attempt a synthesis of all these data<sup>2</sup>. Following new conclusions by Gatti regarding the ground-plan, the sanctuary was discussed again by Malaise and Roulet in their reviews of Egyptian monuments

in Italy and imperial Rome<sup>3</sup>. Yet we still know little about it, particularly in comparison to the temple of Isis at Pompeii, for example, a very modest sanctuary compared to the *Iseum Campense*. The Isis temple on the *Campus Martius* is not only important for the study of the topography of ancient Rome but it is also an important testimony for the confrontation of Roman and Egyptian culture and religion on Roman soil. A study devoted to the most important temple of the goddess Isis, who was so popular in the Roman world, is therefore very welcome.

### PLAN OF THE MONOGRAPH

The book consists of two parts.

In the first half, which consists of seven chapters, the sanctuary is reconstructed, placed into a historical and topographical context and interpreted. After the introduction (chapter I) and a description of the status quaestionis (chapter II), there follows an attempt to reconstruct the sanctuary in chapter III. Here the author reaches different conclusions from preceding studies. Hereafter follows the contextualisation. In chapter IV the historical phases of the sanctuary are discussed, based mainly on literary texts, while in chapter V the sanctuary is placed in the topographical context of the *Campus Martius*. Chapters VI and VII are more general in character and deal with the history of the Isis cult, its reception in Rome and the possible change in character which it thus experienced. A concluding summary closes this part of the book.

The second part of the book comprises a catalogue of all the information relating to the sanctuary which is classified and discussed. This is very useful because, as discussed above, the material is widely dispersed and often inaccessible due to various circumstances.

<sup>1</sup> Juvenal, *Satire* VI, 487-491 and 526-541.

<sup>2</sup> Lanciani, R. 1883, *L'Iseum et Serapeum della Regione IX*, *BullCom* 11, 33-60.

<sup>3</sup> Gatti, G. 1943/44, *Topografia dell'Iseo Campense*, *Rend-PontAcc* 20, 117-163; Malaise, M. 1972, *Inventaire Préliminaire des Documents Égyptiens découverts en Italie*, Leiden (EPRO 21); Roulet, A. 1972, *The Egyptian and Egyptianizing Monuments of Imperial Rome*, Leiden (EPRO 20).

The information presented is split into a number of categories. First and foremost these are the literary (A) and epigraphic (B) sources. Category C comprises the so-called secondary material. This is the most diverse category, and is subdivided into four parts: the *Forma Urbis Romae*, a few reliefs which may possibly be linked to the *Iseum Campense*, coins depicting the temple and lastly architectural drawings from the 15th to 17th century which relate to the architecture of the sanctuary. It is the first time that the architectural drawings are presented as evidence relating to the *Iseum Campense*. Architectural remains have been collected in category D, the preserved sculptural decoration of the Iseum forms the last category E.

#### THE RECONSTRUCTION OF THE SANCTUARY (FIG. 1)

According to the *Forma Urbis Romae* the southern part of the sanctuary consisted of a semi-circular courtyard which was surrounded on all sides by a *porticus*. Lembke interprets this exedra as a large waterbasin, producing as evidence the recovered statues of watergods which would have been placed in the basin. In addition, she points out the great resemblance to the so-called *Canopus* in the villa of Hadrian near Tivoli where a similar exedra served as a *nymphaeum*. On the semi-circular side of the exedra, there were four niches of different depths, separated from the *porticus* by columns and in these niches cult statues of various Egyptian gods would have been placed. Many of the recovered columns would have been part of this porticus surrounding the exedra, which was undoubtedly a colourful sight to judge from the many different kinds of marble that were used.

Adjoining the straight side of the exedra to the north, there was a rectangular courtyard on the east and west side of which stood a large arch. The diverging orientation of the eastern arch, the 'arco di Camilliano', can be explained by the building history of the sanctuary. This arch was probably built on the occasion of the triumphal procession of Vespasian and Titus after their victory in Judea and will have been constructed somewhat later than 71 A.D. Flavius Josephus records that Vespasian and Titus spent the night before their triumph in the Iseum in the *Campus Martius*<sup>4</sup>. The triumphal arch may have been erected nearby and later incorporated in the sanctuary constructed by Domitian. The 'Giano accanto alla Minerva', the west entrance, was a monumental quadruple arch dating to Hadrian's time. On the south and north side of this courtyard there were walls which divided it from the exedra-shaped courtyard and the third, northern, part

of the sanctuary. The northern and southern courtyards were reached through monumental entrances in the centre of the dividing walls. On the *Forma Urbis Romae* there are small rectangles drawn against the southern wall which Lembke interprets as niches in which statues were placed. Niches, however, are open in front and the maker probably would have represented them on the plan in a different way. Moreover, if statues had been placed in the niches, there is a good chance that they would have been found near the south wall. Not a single statue, however, was found in this courtyard. On the plan a small square and a circle are indicated in the centre of the courtyard. It is generally accepted that the square denotes the so-called obelisk of Domitian, now in Piazza Navona. Lembke follows this assumption and suggests that the circle could represent a well or a round temple. The latter interpretation does not seem likely. As we will see below, the relief in Ariccia may not be interpreted as a representation of the *Iseum Campense* and thus cannot be used as a comparison. In addition, in my opinion, the circle is far too small for a temple. A well with sacred water which, according to Lembke, also occupies such an important place in the exedra, seems to be a more plausible explanation. It could even be interpreted as a nilometer, since in Egypt these were found in all important sanctuaries and could have the form of a well. The combination of a nilometer, through which the rise of the Nile flood was measured, and an obelisk, symbolising a successful flood, was not unusual in Egyptian temples<sup>5</sup>. To the north of this courtyard there was another large, rectangular courtyard. There probably was a *porticus* before the partition wall of the first courtyard. On the *Forma Urbis Romae* there are dots on the west side, at regular intervals from each other and from the boundary wall. Because of the large intervals they can not represent columns here and Lembke suggests that they were meant to indicate trees or obelisks. The latter interpretation does not seem probable. Since in the first courtyard an obelisk is indicated by a small square, one expects them to be indicated in the same way in another part of the sanctuary. The northern and eastern boundary have not been preserved on the *Forma Urbis Romae*, but probably existed. This courtyard covered a large area with an approximate length of 140m and a width of 65 m. The area was open and might be regarded as a kind of garden or park. The floor consisted, at least partly, of marble slabs decorated with Egyptian figures and

<sup>4</sup> Flavius Josephus, *Bell. Iud.* 7, 123.

<sup>5</sup> Cf. Meyboom, P.G.P. 1995, *The Nile Mosaic of Palestrina. Early Evidence of Egyptian Religion in Italy*, Leiden (EPRO 121). Ch. III n. 77, 80, figs. 15, 33.

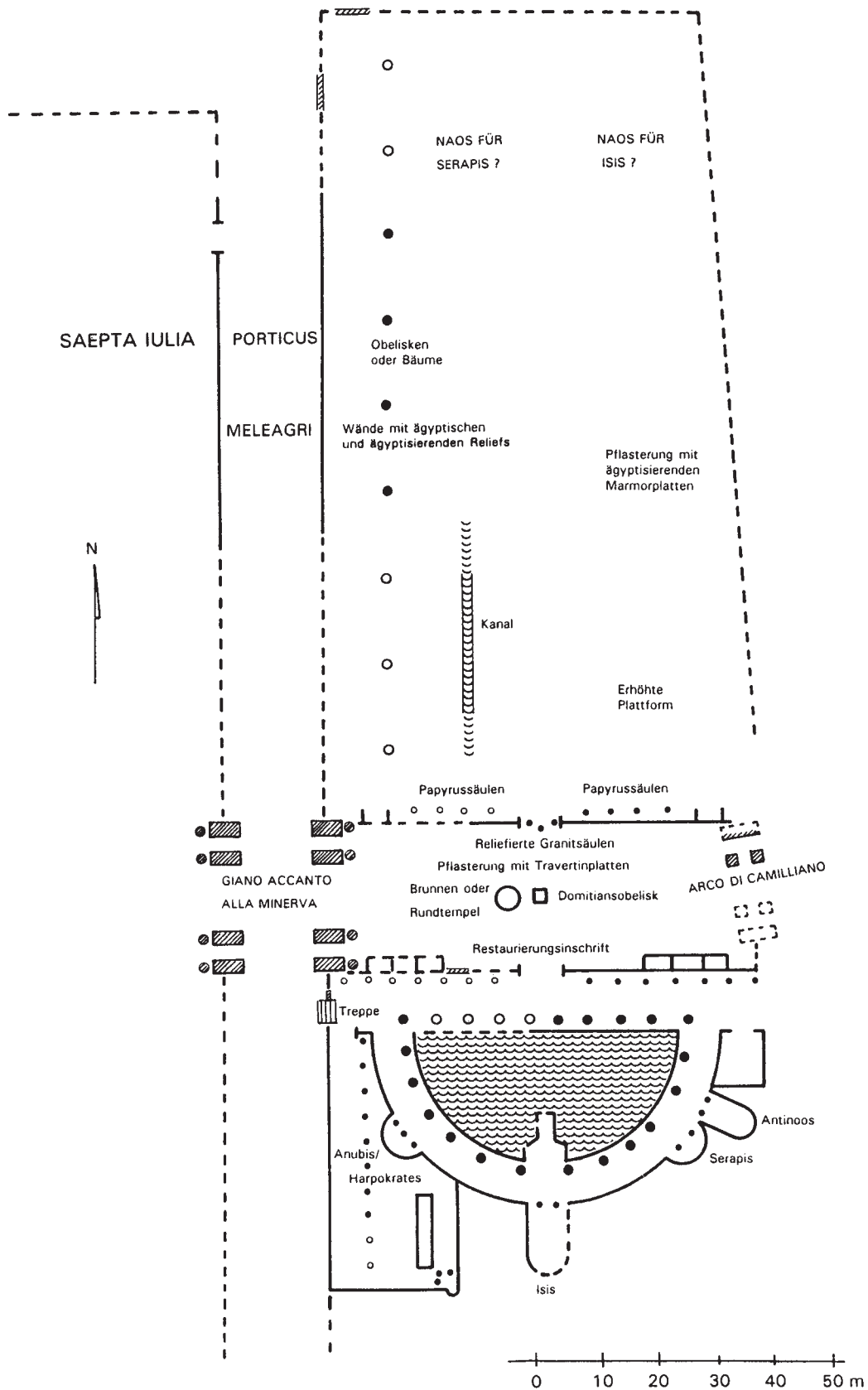


Fig. 1. The Iseum Campense: a reconstruction of the ground-plan by Lembke (photo after Lembke 1994)



hieroglyphs, parts of which have been recovered. In addition, most of the statues of Egyptian animals and figures were found in this part of the sanctuary and probably belonged here. The remains of a canal were found which can be interpreted as a *nilus*, and the remains of a platform or *dais*. Six recovered obelisks probably belonged here as well. Also the actual temple depicted on Vespasianic coins must have been in this part of the sanctuary. There is, however, no evidence of its position. Furthermore, there is a series of coins showing monuments of Domitian's building program. A Serapeum appears a number of times in this series. Lembke proposes to place this as well in the sanctuary and, therefore, tentatively assumes the presence of a *naos* for Isis and a *naos* for Serapis in the northern courtyard. Based on the large number of recovered sphinxes, Roulet reconstructed a *dromos* in this part of the temple, flanked by sphinxes and leading to the temple of Isis<sup>6</sup>. Lembke rejects this idea and indeed there is not enough evidence for it.

The reconstructed plan is all but complete but it is difficult to specify it further. The arguments that Lembke uses against Roulet's interpretations, the most recent previous discussion, can also be applied to her own reasoning. After all, we do not know precisely where the largest part of the objects were found and we also have no idea of the post-depositional processes which affected the site. All reconstructions, including Lembke's, must therefore remain speculative to a large extent. The only secure data we have are a semi-circular form with a *porticus* and niches, a courtyard with an obelisk in the centre between two monumental arches and a large, rectangular courtyard with egyptianizing decoration. I have indicated above a few doubts about Lembke's interpretation. Much could still be discussed in detail.

#### INTERPRETATION AND CHARACTER OF THE SANCTUARY

Fortunately the author does not rest at the reconstruction of the sanctuary alone. She firstly tries, also in chapter III, to examine thoroughly the decorative themes ('Themen der Ausstattung') and the formal classification of Aegyptiaca ('formelle Systematik der Aegyptiaca').

A study of the architecture and the decoration shows that the southern part of the sanctuary is Hellenistic (Graeco-Roman seems a better term) in design and decoration, while the northern part is Egyptian. This can be seen from the discoveries of the statues of the Nile and the Tiber in the southern courtyard and of statues of sphinxes, baboons and other typical Egyptian objects in the northern courtyard. The

central courtyard formed the monumental entrance to these two parts of the complex. Its monumental character was emphasized by the entrances themselves and by the obelisk, the inscriptions of which present Domitian as divine pharaoh.

The Egyptian character of the sanctuary therefore seems to have been particularly prominent in the northern courtyard. Two analogies in Italy can be given for such egyptianizing decoration: the Isis sanctuary in Beneventum, built by Domitian, and the *Canopus* and so-called Serapeum in Hadrian's villa at Tivoli<sup>7</sup>. The finds from the temple at Beneventum demonstrate, mutatis mutandis, the same picture: many animals, a number of typical Egyptian objects and a few portraits. Only the statues of priests and adherents of the cult are lacking in the *Iseum Campense*. There is much uncertainty about the possible position of statues around the *Canopus* in the *Villa Hadriana*. Only a very small number have been preserved in situ, leaving room for all kind of speculation. Lembke uncritically follows the views of Grenier who supposes that the presence and position of the statues reflect a daily performed Egyptian ritual<sup>8</sup>. This is not the place to consider in detail the interesting article by Grenier but his conclusions seem disputable to me. At the end of her investigation of the decorative themes, Lembke concludes that ritual was not the central aspect of the sanctuaries in Beneventum and Rome; the main element seems to have been the creation of an Egyptian ambience including religious practices. In my opinion, the *Canopus* and the so-called Serapeum in the *Villa Hadriana* can endorse such a view. As in the sanctuaries, the emphasis seems to have lain in the creation of an Egyptian ambience. A more critical approach of Grenier's views would probably have strengthened Lembke's own conclusion. It is regrettable that the Iseum of Pompeii, and the recent literature on it, could not be included in the discussion. In this sanctuary, which was of a much more modest size, only a few objects of Egyptian origin were recovered<sup>9</sup>. The wall decoration, which

<sup>6</sup> Roulet, A. 1972 (o.c. n. 3), 23-32.

<sup>7</sup> For the sanctuary in Beneventum, see Müller, H.W. 1969, *Der Isiskult im antiken Benevent*, München. For the *Villa Hadriana* see the new publication by MacDonald, W.L., Pinto, J.A. 1995, *Hadrian's Villa and its Legacy*, New Haven & London.

<sup>8</sup> Grenier, J.C. 1989, La décoration statuaire de 'Serapeum' du Canope de la Villa Hadriana. Essai de reconstruction et d'interprétation, *MEFRA* 101, 925-1019.

<sup>9</sup> The manuscript was finished in 1991. Subsequently published were: De Caro, S. (ed.) 1992, *Alla Ricerca di Iside: analisi, studi, restauri dell'Iseo pompeiano nel Museo di Napoli*, Napoli (to which Lembke refers briefly); Hoffmann, P. 1993, *Der Isis-Tempel in Pompeji*, Münster, and a volume in the series *Il parole del passato* (I/II, 1994) with articles on the *Iseo pompeiano* and related subjects.

dates from shortly after 62 A.D. and can be restored in great detail, informs us about what was considered appropriate for the decoration of a local Isis sanctuary. It shows that here too religious representations occur alongside more general, non-religious egyptianizing scenes<sup>10</sup>.

A point I can not agree with is Lembke's assumption that a possible portrait of Domitian as pharaoh could indicate that through the Isis cult Egyptian culture was more easily accepted in Rome<sup>11</sup>. Cult and culture must be distinguished from each other. Egyptian motifs occur on coins from the Republican period when the Senate was hostile to the followers of the cult of Isis; egyptianizing murals occur in private dwellings in Pompeii in Republican and Imperial times and even in Augustus's house on the Palatine. Thus, aspects and expressions of Egyptian culture had been accepted in Italy since the first century BC.<sup>12</sup>

In the formal classification a distinction is made between Egyptian and egyptianizing objects. There does not seem to be any special criteria in the choice of the Egyptian artefacts, which seem to have been chosen on purely practical grounds. Most objects originate from Saïs and other parts of the Delta where they were originally placed in Egyptian sanctuaries. The type of stone seems to have been important (favourite is basalt) and the typical Egyptian character of an object such as obelisks and Egyptian animals. They emphasize the foreign and exotic character: the age or original meaning was not important. With the egyptianizing objects, Lembke distinguishes between Egyptian-Roman artefacts (made by Egyptian artists) and Roman-Egyptian artefacts (made by Italian artists). Most obelisks and the possible portrait of Domitian belong to the first category. In the second category, the *interpretatio Romana*, the choice seems to have been determined by the connection which an object or representation may have with Egypt. Sometimes even the original meaning is lost; thus the sacred baboons may become monkeys in general. The conclusion is that a connection was sought with the Egypt of the pharaohs. The presence of a large number of ancient Egyptian objects would have given the northern courtyard the appearance of a kind of museum. The reception of Graeco-Roman history was apparently of less importance.

What Lembke does not emphasize is, in my opinion, the most important conclusion of this part: there is no religious concept. It is the exotic character of an object rather than its religious meaning, which determines its attractiveness in the first place. This endorses the belief that the creation of an Egyptian atmosphere had an important part to play.

#### COMPARISON WITH OTHER SANCTUARIES FOR EGYPTIAN GODS

A further comparison with other sanctuaries of Egyptian gods, undertaken by the author, does not clarify much. The famous Serapeum in Memphis possibly had a similar combination of sacral and profane elements but a direct relationship can certainly not be proved, in spite of Martial's description of the Iseum as '*Memphitica templa*'<sup>13</sup>. In cultural-historical and chronological terms the Serapeum in Alexandria comes closer to the *Iseum Campense*. Lembke identifies elements in the construction and decoration of the *Iseum Campense* which were influenced by the Alexandrian sanctuary<sup>14</sup>. Whilst not impossible, for the time being it cannot be proven.

According to Lembke the most important analogy is the so-called lower complex of the sanctuary of Fortuna in Praeneste. Lembke interprets this as an Iseum and/or Serapeum with a *nymphaeum*. This frequent interpretation can no longer be upheld since the analysis by Meyboom<sup>15</sup>. The so-called lower complex stood in the centre of ancient Praeneste, the large columnar hall was probably a basilica and the

<sup>10</sup> As an example, a painting depicting a part of the myth concerning the *Navigium Isidis* (National Archaeological Museum, Naples, inventory number 8929; see *Alla Ricerca di Iside* (o.c. n. 9) sv. 1.74) can be placed against two panels showing nilotic scenes with dwarfs and ibises on plots of lands in the Nile (National Archaeological Museum, Naples, inventory number 8607 and 8539; see *Alla Ricerca di Iside* sv. 1.2 and 1.10, tav. IV).

<sup>11</sup> Page 33: 'ein deutliches Zeichen für die Verschmelzung von Religion und Politik sowie für die Akzeptanz Ägyptens durch den Isiskult'.

<sup>12</sup> For more detail, see Meyboom, P.G.P. 1995 (o.c. n. 5), ch. V and Appendix 14. In my opinion, Lembke's identification of the portrait as Domitianus also can be questioned, see page 168.

<sup>13</sup> Martial, II, 14, 19. Note also that the adjectives '*Memphiticus*'/'*Memphitis*' used in literary texts usually indicate Egypt in general. Memphis is used as a pars pro toto indicating pharaonic Egypt, as Alexandria is often used to denote Hellenistic Egypt. Cf., for example, Ovidius, *Ars amatoria* 1, 77 ('*memphitica templa*') and 3, 393 ('*memphitidos aras*').

<sup>14</sup> Her arguments are, firstly, that in both sanctuaries there were separate temples for Isis and Serapis in a large peristyle. As we have seen, the presence of the naïskos for Serapis in the *Iseum Campense* is speculative and moreover the similarity is too general to be able to speak of any direct influence. As a second argument, she presents the conscious combination of a Hellenistic and Egyptian architectural style. Apart from the fact that again this argument seems to hold for almost every Egyptian sanctuary in the Graeco-Roman world, too little is left of the Serapeum in Alexandria to be able to speak of a conscious combination of different architectural styles. Her last argument is based on the combination of porticoes and niches with granite columns and the statement by the late author Ammianus Marcellinus that the Alexandrian Serapeum was luxuriously decorated. The conclusion that both sanctuaries were luxuriously decorated is too general to assume a relationship between them.

<sup>15</sup> Meyboom, P.G.P. 1995 (o.c. n. 5), Ch. II.

apsidal hall at its right-hand side an assembly room with an elaborate *nymphaeum* decorated with the Nile mosaic. Also for historical-political reasons it is impossible that such a monumental Egyptian sanctuary would have appeared in the town centre of Praeneste. This would imply that it was a public cult whilst in the Republican period there were only private manifestations of the cult, as illustrated by the Iseum in Pompeii.

To conclude, Lembke attempts to find analogies for the *Iseum Campense* in other constructions which have a semi-circular waterbasin. She places 'the *nymphaeum*' of the *Iseum Campense* in the tradition of the 'Cavea Brunnen'. Although a *nymphaeum* is something different from a basin, I do agree that this architectural type derives from villa- and bath architecture. Additional elements are the *porticus* and the niche in *summa cavea* which originate in sacral architecture. These two elements (villa- and bath architecture and sacral architecture) are therefore connected. The presence of the sacral element in a temple speaks for itself. In villa- and bath architecture, a connection with water and an Egyptian or egyptianising decoration is also often evident: the gardens of Pompeii present many examples<sup>16</sup>. This element, therefore, also determines the prestige of the Iseum which, according to Lembke, subsequently influenced the design and realization of the *Canopus* in the *Villa Hadriana*.

This largest and most important chapter in the publication also is not always convincing in the concluding part. In the final comparisons the emphasis lies too much on the *exedra*. In addition, it is doubtful whether the *exedra* should be interpreted as a *nymphaeum*. The primary objective of a *nymphaeum* is to supply water and a pleasant coolness; a large basin surrounded by niches for cult statues of gods would probably have a different function. What is more, Lembke interprets this southern part of the sanctuary as Hellenistic. She attempts to substantiate her reconstruction with egyptianizing scenes which elsewhere occur in profane architecture. This seems illogical since 'Hellenistic' and 'egyptianizing' are contradictory in this respect. The objective of the egyptianising scenes was the evocation of Egypt, something that, as we have seen, was important in the northern part of the sanctuary. The northern temple garden, in particular, would have been adorned by egyptianizing scenes and the running water of the canal and the many typical statues and obelisks would have served to suggest an Egyptian atmosphere. It is this evocation which exerted its influence on the *Villa Hadriana*. In connection with this, it is regrettable that the Iseum of Pompeii is only summarily considered in the discussion.

Lastly, the information is not always correct. For instance, Lembke states that nilotic scenes often appear in Hellenistic mosaics from Egypt. To my knowledge, however, only two, fragmentary preserved, examples are known. A third example given by Lembke, a mosaic from Thmuis, is not early Hellenistic but dates from the third century A.D.<sup>17</sup>.

#### HISTORICAL AND TOPOGRAPHICAL CONTEXT

Chapter IV deals with the historical phases of the sanctuary. Here we are mainly dependant on literary sources. In 43 B.C. the *triumviri* undertook the construction of a temple for Serapis and Isis. There are no indications that this was actually built. The next source refers to 19 A.D. A scandal occurs in the temple of Isis; Tiberius orders the sanctuary to be destroyed and the cult statues to be thrown into the Tiber. In its first phase, therefore, the temple should have been built somewhere between 43 B.C. and 19 A.D. Based on the political situation, Lembke suggests between 20 and 10 B.C. The next report refers to 71 A.D. Vespasian and Titus spent the night there before their triumph and probably shortly after 71 A.D. a triumphal arch was built. After the destruction by Tiberius, therefore, the sanctuary must have been rebuilt. It was destroyed again by a big fire in 80 A.D. Domitian rebuilt the sanctuary which was already finished by the time it is mentioned by Martial in 85/86 A.D. After some minor alterations by Hadrian, extensive restorations were carried out by Septimius Severus. In the fifth century A.D. the sanctuary was destroyed by fire and fell into oblivion.

Chapter V places the sanctuary in the topographical context of the *Campus Martius*. Around 20 B.C. Agrippa built a large bath complex with gardens. Lembke assumes that also around this time the first Iseum was built. After the fire of 80 A.D., Domitian renovated the whole region. Similarly to the earlier building program of the Julio-Claudian dynasty on the *Campus Martius*, 'imperiale Selbstdarstellung' was very important here. The Iseum, where Domitian presented himself as emperor and divine pharaoh, contributed to this.

<sup>16</sup> Well known are the gardens in the houses of Octavius Quartio in Pompeii (II 2, 2) and the so-called *praedia* of Iulia Felix (II 4, 2).

<sup>17</sup> For the Hellenistic mosaic fragments cf. Daszewski, W.A. 1985, *Corpus of Mosaics from Egypt I. Hellenistic and Early Roman Period*, Mainz, 136-142 sv. no. 28-37 and 167-168 sv. no. 44. For the mosaic from Thmuis, cf. Meyboom, P.G.P. 1995 (o.c. n. 5), fig. 47.



Chapter VI discusses the last important context in which the sanctuary should be placed: the history of the cult of Isis and her reception in Rome. Lembke follows here the general view which is best described and documented in Malaise's canonical work<sup>18</sup>. A subtle distinction that Lembke fails to apply here is that, until the construction of the *Iseum Campense*, there was a strong private character to the Egyptian cults. Only private initiatives were tolerated by the government.

What I also miss in this chapter is a systematic discussion of other monuments of the cult of Isis in Rome. The only time when Lembke refers to these, she relies heavily, as do all recent studies, on an article by Coarelli<sup>19</sup>. This article is not without shortcomings. For example, Coarelli makes a case for a public sanctuary on the Capitol around 100 B.C. There is, however, no decisive evidence for such an early sanctuary and Malaise's earlier reservations in this respect are, in my opinion, more correct<sup>20</sup>. Be that as it may, a discussion of other Isis sanctuaries in Rome would have placed the *Iseum Campense* more firmly in its context and may have produced a slightly different historical interpretation<sup>21</sup>.

An incorrect supposition can be found on page 86 where Caesar's policy regarding the Egyptian cult is described as rather positive. His policy is staunch: not actively persecuting but rejecting. Lembke's argument concerns the story that Caesar had a golden statue of Cleopatra placed in the temple of Venus Genetrix. Carcopino already noted that this story is based on an incorrect textual interpretation: the Caesar in question is Augustus who offered the statue to Venus Genetrix as a trophy, symbolising the subordination of Egypt to Rome<sup>22</sup>.

Within this reception history it seems useful to consider and define the *interpretatio romana* of the cult of Isis. This would seem a logical and important conclusion of the chapter but Lembke has chosen to devote a separate chapter (VII) to it. In this, little innovating thought is advanced. The Isis aretalogies are discussed extensively. I will not go into detail here but Lembke emphasizes, incorrectly I think, their Egyptian character. The aretalogies seem to be a Hellenistic product with mainly Greek and also Egyptian elements<sup>23</sup>. Because the Isis cult came to Italy via Delos, the Roman cult of Isis would have had an Egyptian-Hellenistic character rather than a Greek-Hellenistic one. Lembke's discussion of this comprehensive issue seems too brief to substantiate sufficiently her conclusion. It also does not help us with the interpretation of the archaeological record, as this does not fit her conclusion. As we have seen above egyptianizing contexts sooner lend themselves

to be regarded as exotic surroundings and monuments of imperial representation than as places serving mainly ritual purposes. The chapter is, particularly in this extensive form, superfluous for the interpretation and contextualisation of the *Iseum Campense*. As a religious historical discourse I find it too superficial.

#### THE ARICCIA RELIEF AND OTHER SOURCE MATERIAL

The second part of the book consists of an extensive catalogue of all information relating to the *Iseum Campense* in which the first two categories, A and B, contain the literary and epigraphic source material.

In category C the author discusses what she considers to be secondary material. Firstly the *Forma Urbis Romae* and secondly several reliefs which Lembke associates with the architecture of the sanctuary. An example is the well-known relief from Ariccia which Lembke herself discussed recently in a separate article<sup>24</sup> (fig. 2). The upper register of this relief undoubtedly depicts an Isis sanctuary. The middle register shows people dancing ecstatically, with women and children on a platform clapping encouragingly. There are dwarfs and men in the dancing party with sticks in their hands which they use as rattles. Dancing dwarfs with rattles are typical elements of nilotic scenes, a popular genre in Roman art<sup>25</sup>. These nilotic scenes often show the

<sup>18</sup> Malaise, M. 1972, *Les Conditions de Pénétration et de Diffusion des Cultes égyptiens en Italie*, Leiden (EPRO 22).

<sup>19</sup> Coarelli, F. 1982, I monumenti dei culti orientali in Roma. Questioni topografiche e cronologiche, Bianchi, U., Vermaseren, M.J. (eds.) 1982, *La soteriologia dei culti orientali nell'impero romano*, Leiden (EPRO 92), 33-67.

<sup>20</sup> Malaise, M. 1972 (o.c. n. 3), 184-187.

<sup>21</sup> Three recent publications do now give an overview of the cult places of Isis in Rome: Lollo Barberi, O., Parola, G., Toti, M.P. 1995, *Le Antichità Egiziane di Roma Imperiale*, Roma, 51-90 ('luoghi egiziani nella topografia romana'); Steinby, E.M. 1996, *Lexicon Topographicum Urbis Romae. Volume terzo H-O*, Roma, sv. Iseum & Isis; and Ensoli, S. 1997, I santuari isiaci a Roma e i contesti non cultuali: religione pubblica, devozioni private e impiego ideologico del culto, *Iside. Il mito. Il mistero. La magia*, Milano, 306-321.

<sup>22</sup> Cassius Dio, LI, 22, 3 and Appianus, *Bellum Civile*, II, 102, 424. Carcopino's correct interpretation of the fragment can be found in Carcopino, J. 1958, *Passion et politique chez les Césars*, Paris, 57-58.

<sup>23</sup> For this view, cf. Versnel, H.S. 1992, *Ter Unus. Isis, Dionysos, Hermes. Three Studies in Henotheism*, Leiden, 39-95.

<sup>24</sup> Lembke, K. 1994, Ein Relief aus Ariccia und seine Geschichte, *RM* 101, 97-102.

<sup>25</sup> Cf., for instance, the fragments of a painting that decorated the peristylum of the so-called Casa dello Scultore in Pompeii (VIII 7, 24), published by Maiuri (Maiuri, A. 1956, Una nuova pittura nilotica a Pompei, *MemLinc* ser. 8, 7, 65-80).



Fig. 2. The Ariccia relief (photo DAI, Rome)

festivities which took place during the annual flooding of the Nile. It seems that in the case of the Ariccia relief not just a ritual dance ('kultische Tanze') is reproduced, but the feast of the annual Nile flood in an Isis sanctuary. This interpretation is supported by the stretch of water with ibises depicted in the lower register. Similar canals (called *nilus* or *euripus*) could also occur in private dwellings. They could be flooded in order to imitate the Nile flood. This interpretation of the representation only strengthens the identification of the architecture as an Isis sanctuary. It seems doubtful, however, whether the *Iseum Campense* is represented as Lembke suggests. The architecture with the niches is quite simple and statues of Isis, Bes and baboons may have occurred in every Egyptian sanctuary, moreover it should be taken into account that the artist operated in an eclectic way. Also in the case of the well-known paintings from a house in Herculaneum, also showing rituals in an Egyptian sanctuary, we get the impression that the painter did not intend to depict a specific sanctuary but rather to give an impression of a ceremony which could occur in any Egyptian sanctuary in Italy<sup>26</sup>. A direct relationship of the relief with the *Iseum Campense* is therefore very doubtful. In any case, the representation does not give concrete indications for the reconstruction of the latter's architecture. A representation that may well do so is a relief from the tomb of the *Haterii*. In it an arch is depicted with the inscription 'ARCUS AD ISIS'. In the centre of

the passage there is a statue of Minerva, on either side are depicted Isis and (probably) Anubis. The statues cannot be anything but a reference to the nearby sanctuary of Minerva Chalcidica and the *Iseum Campense*. The inscription confirms this. Lembke therefore rightly upholds the identification of this representation as the 'Arco di Camilliano', the eastern entrance of the Iseum. Kleiner recently casted doubts on this identification but his arguments are conclusively refuted<sup>27</sup>.

In addition to the plan and the reliefs discussed here in more detail, coins constitute a third category of the secondary material. Coins from the reign of Vespasian depict an earlier phase of the actual temple with a statue of Isis in the cella. Coins from the reign of Domitian depict a temple with a statue of Isis in the cella and a temple with a statue of Serapis in the cella. A fourth category of secondary material is new and consists of drawings of architectural remains from the 15th to 17th centuries. Lembke is the first to collect some 40 drawings and sketches which give detailed images of capitals and entablatures. This splendid new information has been represented almost completely. Most drawings relate to the two monumental entrance gates.

<sup>26</sup> The panels are now in the Museo Archeologico Nazionale in Naples, inventory numbers 8919 and 8924. Cf. Malaise, M. 1972 (o.c. n. 3), 251-253, pl. 35 and 36.

<sup>27</sup> Cf. Kleiner, F.S. 1990, The arches of Vespasian in Rome, *RM* 97, 127-136.



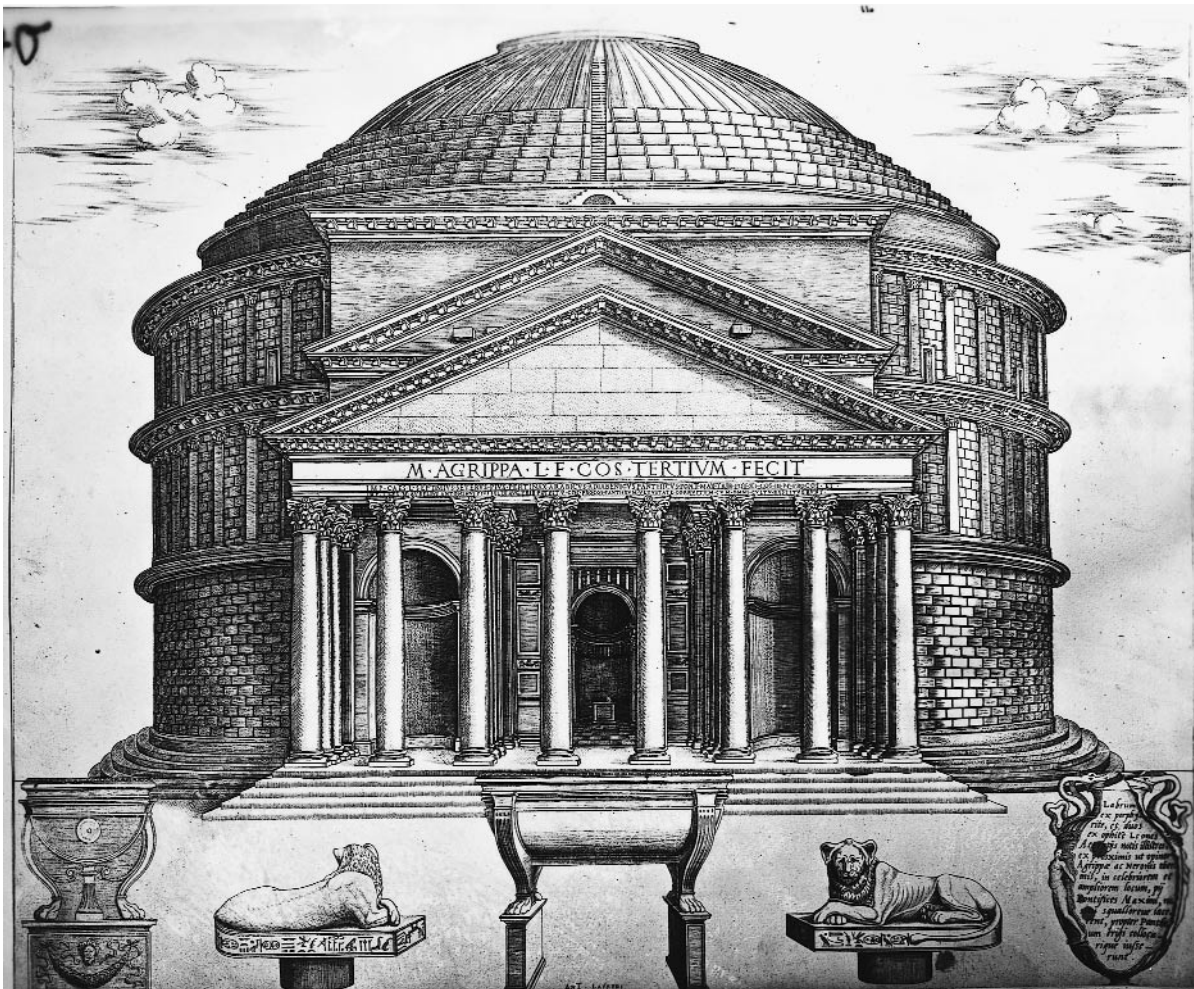


Fig. 3. The Pantheon, with the two lions which once decorated the Iseum Campense standing in front. Engraving from A. Lafreri, *Speculum Romanae Magnificentiae* (Rome 1549) A 15 (photo DAI, Rome)

These entrance gates are discussed in category D, together with other well-known architectural remains. The eastern arch, the so-called 'Arco di Camilliano', can be related, as stated above, to the representation of the 'ARCUS AD ISIS' in the relief from the tomb of the *Haterii*. Three pillars of the arch are still in situ; foundations uncovered in excavations in 1981 make it possible to reconstruct the ground plan. The western arch was the so-called 'Giano accanto alla Minerva'. This arch has now completely disappeared but a reconstruction is possible with drawings and descriptions from earlier centuries. The 'Giano' served as entrance to the Iseum Campense and as a throughfare to the nearby *porticus Meleagri*. Further architectural remains are columns and column fragments (19 pieces), papyrus

capitals (7), parts of entablatures (2), one of which, decorated with beautiful reliefs, was used until 1874 as a step in the porticus of the Pantheon, an antefix, fragments of reliefs (6), remains of walls (4) and parts and fragments of plasterwork (7). All these finds, which mainly came to light in earlier centuries, can be linked to the Iseum because of the place where they were found. Later two churches were built on the spot of the ancient sanctuary: S. Maria sopra Minerva and S. Stefano del Cacco. Finds in this area and in the still existing Via del Piè di Marmo which runs between them, can without much doubt be attributed to the Iseum. Seven obelisks can also be ascribed to the sanctuary. Not only the one on the Piazza Navona, but also the obelisk which, also following a design by Bernini,



was placed on an elephant in front of S. Maria sopra Minerva, the Dogale obelisk, now to be found in the Viale delle Terme, and the Mahuteaus obelisk which now decorates the fountain in front of the Pantheon.

The last part of the catalogue (E) consists of a reconstruction of the decoration of the sanctuary. Best known are undoubtedly the more than life-size statues of the Nile and the Tiber which served as companion pieces. They are dated by Lembke to the reign of Domitian. Also two statues of lions, now standing in the Cortile della Pigna of the Vatican Museum and dating to the fourth century B.C., belonged to the decoration of the sanctuary. Before their admission in the Papal collections at the beginnings of the 19th century, the statues decorated for about 400 years the porticus in front of the Pantheon (fig. 3) and were subsequently used as part of the Aqua Felice by Sixtus V. In her discussion of the 63 catalogue numbers in this category, Lembke makes a sensible distinction between Graeco-Roman objects, Egyptian objects (imported from Egypt) and egyptianizing ones (made in Italy in the Egyptian style). Apart from lions, sphinxes, baboons, a crocodile and altars, a few portrait heads were found. Very interesting is the, previously unknown, portrait of a ruler in black basalt. It seems to have been found behind S. Maria sopra Minerva, was bought in 1970 by a collector and is now in a private collection in Germany. Lembke suggests that it is a portrait of Domitian as pharaoh. However, the narrow face with the large round eyes resembles in no way the broad Flavian head of Domitian. If anything it resembles one of the portraits of the later Ptolemies.

Broadly speaking, the catalogue section is very well executed. Every artefact is given a find-spot, dimensions, date, literature, etc., followed by a discussion of the object itself, including possible interpretations and/or problems. A number of new finds by the author have already been mentioned; she has also included all finds which have ever been attributed to the sanctuary and re-investigated them. In previous centuries Egyptian or egyptianizing objects found in Rome were readily attributed to the Iseum, not least because the antiquarian value of an object increased when it could be attributed to a well-known ancient temple or imperial palace. A dozen objects have been erroneously, or in any case without reason, attributed to the sanctuary. For other objects Lembke uses the definition 'presumably from the *Iseum Campense*' and some reservation is therefore justified. This 'cleaning up the files' is elucidating, though I cannot always agree with the

author. The obelisk of Domitian should – in view of an inscription on rebuilding, the representations that show Domitian closely linked with Isis and the absence of an alternative – come from the sanctuary. Lembke's indication 'warscheinlich' (presumably) seems superfluous here. On the other hand, the columns and capitals of S. Maria in Trastevere have not been included in the catalogue; they are mentioned in a note on page 13. According to a widely spread story, 28 brown granite columns would have been used in the reconstruction of the S. Maria in Trastevere after the final destruction of the remains of the Iseum in the 11th century<sup>28</sup>. Between the volutes of the capitals Egyptian gods are still visible, although a large part was hacked away in the restoration of the nave in 1870. Although the attribution to the *Iseum Campense* can certainly be doubted, the capitals should have been included in the catalogue and been more extensively discussed.

#### CONCLUSION

It is very useful that there is a reliable monograph on the most important sanctuary of Isis in Italy. Lembke has compiled an excellent catalogue which can serve as a basis for further research. She has also ventured to put the sanctuary in as broad a context as possible. Lembke's final interpretation of the complex is illuminating: the Romans who were not devoted to Isis could enjoy the sanctuary as a park and wonder about the exotic objects, just like, for example, the *Forum Pacis*. For adherents of the cult there were the cult places and religious connotations. Lastly, for the emperor it served as a monument of representation and veneration. This line of thought, however, cannot always be found in Lembke's own discussion of the problems. I think that this is due to the tradition of research into the relationships between Egypt and Rome. The major part of the research in this field is conducted from a religious point of view<sup>29</sup>. Also when dealing with archaeological material the primary point of departure is a religious context and function. In general, Egyptian or egyptianizing objects preserved in Italy are firstly linked to Egyptian cults. The articles by Grenier and Coarelli mentioned above illustrate this<sup>30</sup>. For Lembke this tradition is important as is emphasized by the subtitle of her book: 'study of

<sup>28</sup> Already in the 19th century, this idea was introduced by Nibby. It has been followed by most scholars who referred to the subject afterwards, including Malaise and Roulet (o.c. n. 3).

<sup>29</sup> Only recently a different angle has been adopted. See, for example, Takács, S.A. 1995, *Isis and Serapis in the Roman world*, Leiden (EPRO 124).

<sup>30</sup> Cf. o.c. n. 8 and 19.

the cult of Isis during the reign of Domitian'. I think that 'study of the relationship between Egyptian and Roman culture during the reign of Domitian' would cover just as well, if not better, the contents of the book and the issues discussed.

Hopefully, the author will raise much discussion with her book, of which this review would like to be a part. Let us hope that this discussion leads to a better and more consistent interpretation of Egyptian and egyptianizing artefacts in Italy. The fact that

Mrs Lembke has instigated this with her book is very commendable<sup>31</sup>.

MAY 1997

LEIDEN UNIVERSITY, FACULTY OF ARCHAEOLOGY  
P.O. BOX 9515  
2300 RA LEIDEN  
THE NETHERLANDS

<sup>31</sup> I would like to thank P.G.P. Meyboom for his useful comments on earlier drafts of this paper. K. Fennema and J. Berry kindly corrected my English text.